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(FILE 'HOME' ENTERED AT 09:40:57 ON 15 JUN 2004)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA'  
ENTERED AT

09:41:28 ON 15 JUN 2004

L1 1631 S HUMAN PROTEIN C  
L2 11812 S PROTEIN C (P) HUMAN  
L3 11815 S L1 OR L2  
L4 9890993 S VARIANT OR MUTANT OR FRAGMENT OR MUTAT? OR  
SUBSTITUT? OR DELE  
L5 3991 S L3 (P) L4  
L6 293 S K251 OR LYS 251 OR (RESIDUE 251) OR ( POSITION 251)  
L7 0 S L5 (P) L6  
L8 100458 S PROTEIN C  
L9 18051 S L8 (P) L4  
L10 1 S L9 (P) L6  
L11 10786 S ANTICOAGULANT ACTIVITY  
L12 3796 S AMIDOLYTIC ACTIVITY  
L13 6976 S ALPH-1-ANTITRYPSIN OR (ALPHA-1 PI) OR (ALPHA-1  
PROTEINASE INH  
L14 2688 S (HUMAN PLASMA) (P) INACTIVAT?  
L15 4254894 S (IN VITRO) OR (IN VIVO)  
L16 34385 S L15 (P) (HALF-LIFE)  
L17 288 S L5 (P) (L11 OR L12)  
L18 80 S L5 (P) (L13 OR L14)  
L19 30 S L5 (P) L16  
L20 339 S L17 OR L18 OR L19  
L21 0 S L20 AND L6  
L22 0 S K251G OR K251S OR K251T OR K251C OR K251Y OR K251N OR  
K251Q  
L23 14938 S ANDERSON K?/AU  
L24 2638 S PEDERSEN A?/AU  
L25 17 S FRESKGAARD P?/AU  
L26 17590 S L23 OR L24 OR L25  
L27 4 S L26 AND L5  
L28 3 DUPLICATE REMOVE L27 (1 DUPLICATE REMOVED)

=> log y

	Type	L #	Hits	Search Text	Dbs	Time Stamp	Comments	Error Definition	Errors
1	BRS	L17	479	human adj protein adj c	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:06		0	
2	BRS	L18	517	(protein adj c) near human	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:10		0	
3	BRS	L19	517	17 or 18	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:10		0	
4	BRS	L20	333534 1	(variant or mutant or fragment or mutat\$3 or substitut\$3 or delet\$3 or addit\$3)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:12		0	
5	BRS	L21	170	19 same 20	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:12		0	
6	BRS	L24	23	k251 or lys251	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:14		0	
7	BRS	L25	12	20 same 24	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:23		0	
8	BRS	L26	0	21 same 24	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:21		0	
9	BRS	L27	0	19 same 24	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:24		0	
10	BRS	L28	8897	protein adj c	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:23		0	



Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition	Errors
11 BRS	L29	2	28 same 24	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:24			0
12 BRS	L30	274	(residue adj "251") or (position adj "251")	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:25			0
13 BRS	L31	3	28 same 30 same 20	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:26			0
14 BRS	L32	1903	anticoagulant adj activity	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:28			0
15 BRS	L33	528	amidolytic adj activity	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:29			0
16 BRS	L34	1468	(alpha-1-antitrypsin) or (alpha-1 adj PI) or (alpha-1 adj proteinase adj inhibitor)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:31			0
17 BRS	L35	3668	32 or 33 or 34	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:32			0
18 BRS	L36	20	21 same 35	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:32			0
19 BRS	L37	1	36 same ( 24 or 30)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:33			0
20 BRS	L38	195	(in adj vivo adj half-life) or (in adj vitro adj half-life)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:35			0

Type	L #	Hits	Search Text	Dbs	Time Stamp	Comments	Error Definition	Errors
21	BRS	L39 2	resistance near ( human adj plasma)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:35		0	
22	BRS	L40 0	21 same (38 or 39)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:36		0	
23	BRS	L41 318561	(host adj cell) or vector	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:37		0	
24	BRS	L42 78	21 same 41	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:37		0	
25	BRS	L43 1	21 same 41 same (24 or 30)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:37		0	
26	BRS	L44 14	anderson adj kim.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:38		0	
27	BRS	L45 53	pedersen adj anders.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:39		0	
28	BRS	L46 6	freskgard adj per.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:39		0	
29	BRS	L47 71	44 or 45 or 46	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:39		0	
30	BRS	L48 2	47 and 21	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/15 09:39		0	

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OM protein - protein search, using sw model

Run on: June 14, 2004, 17:45:38 ; Search time 49 Seconds

(without alignments)  
2409.046 Million cell updates/sec

Title: US-09-997-623-4

Perfect score: 2324  
Sequence: 1 ANSFLEHRLHSLRECIER.....LDWGHGHRKXAPKQKMAP 419

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1158786 seqs, 281726120 residues

Total number of hits satisfying chosen parameters: 1158786

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Database :

Published Applications AA:\*  
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15: /cgn2\_6/ptodata/2/pubppaa/US10B\_PUBCOMB.pep:\*  
16: /cgn2\_6/ptodata/2/pubppaa/US10C\_PUBCOMB.pep:\*  
17: /cgn2\_6/ptodata/2/pubppaa/US60\_NEW\_PUB.pep:\*  
18: /cgn2\_6/ptodata/2/pubppaa/US60\_PUBCOMB.pep:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	2324	100.0	419	10	US-09-978-917A-4
2	2324	100.0	419	12	US-09-997-623-4
3	2324	100.0	419	14	US-10-182-263-1
4	2324	100.0	419	15	US-10-168-407-1
5	2324	100.0	461	10	US-09-978-917A-2
6	2324	100.0	461	12	US-09-997-623-2
7	2324	100.0	461	14	US-10-182-263-2
8	2324	100.0	461	15	US-10-168-407-2
9	2306	99.2	419	15	US-10-168-407-3
10	2302	99.1	419	15	US-10-168-407-4
11	2299	98.9	419	12	US-10-670-628-2
12	2298	98.9	419	15	US-10-168-407-5
13	2296	98.8	419	14	US-10-182-263-5
14	2294	98.7	419	15	US-10-168-407-6
15	2290	98.5	419	14	US-10-182-263-3

16	2288	98.5	419	14	US-10-182-263-6	Sequence 6, Appl1
17	2286	98.4	419	14	US-10-182-263-4	Sequence 4, Appl1
18	809	34.8	488	12	US-10-406-031-27	Sequence 27, Appl
19	803	34.6	488	14	US-10-348-504-47	Sequence 44, Appl
20	803	34.6	488	14	US-10-407-123-27	Sequence 27, Appl
21	783	33.7	406	10	US-09-782-587B-3	Sequence 3, Appl1
22	783	33.7	406	15	US-10-383-898-1	Sequence 1, Appl1
23	783	33.7	406	16	US-10-263-205B-2	Sequence 2, Appl1
24	783	33.7	444	12	US-10-411-037-8	Sequence 8, Appl1
25	783	33.7	444	12	US-10-382-248-34	Sequence 34, Appl
26	783	33.7	444	12	US-10-411-028-8	Sequence 8, Appl1
27	783	33.7	444	16	US-10-410-962-8	Sequence 8, Appl1
28	783	33.7	444	16	US-10-411-049-8	Sequence 8, Appl1
29	783	33.7	444	16	US-10-263-205B-3	Sequence 3, Appl1
30	783	33.7	466	14	US-10-017-122-2	Sequence 2, Appl1
31	783	33.7	466	15	US-10-375-741-14	Sequence 14, Appl
32	783	33.7	467	12	US-10-406-031-8	Sequence 8, Appl1
33	782	33.6	467	12	US-10-406-031-5	Sequence 5, Appl1
34	779.5	33.5	454	12	US-10-406-031-11	Sequence 11, Appl
35	779	33.5	454	15	US-10-360-101-225	Sequence 25, App
36	777	33.4	467	12	US-10-406-031-2	Sequence 2, Appl1
37	775.5	33.4	455	12	US-10-406-031-17	Sequence 17, Appl
38	758.5	32.6	453	12	US-10-406-031-14	Sequence 14, Appl
39	749.5	32.3	437	12	US-10-712-332-2	Sequence 2, Appl1
40	746	32.1	488	12	US-10-712-332-1	Sequence 12, Appl
41	741.5	31.9	437	12	US-10-712-332-3	Sequence 12, Appl
42	740	31.8	456	16	US-10-038-854-94	Sequence 94, Appl
43	739	31.8	456	16	US-10-038-854-96	Sequence 96, Appl
44	736	31.7	456	16	US-10-038-854-95	Sequence 95, Appl
45	736	31.7	461	9	US-09-884-901-3	Sequence 3, Appl1
46	736	31.7	461	14	US-10-132-829-5	Sequence 5, Appl1
47	736	31.7	461	14	US-10-234-406-6	Sequence 6, Appl1
48	736	31.7	461	14	US-10-234-406-8	Sequence 8, Appl1
49	736	31.7	461	14	US-10-133-907-5	Sequence 5, Appl1
50	736	31.7	461	16	US-10-038-854-92	Sequence 92, Appl
51	736	31.7	461	16	US-10-038-854-93	Sequence 93, Appl
52	736	31.7	461	16	US-10-239-498A-5	Sequence 5, Appl1
53	735	31.6	415	9	US-09-118-748-2	Sequence 2, Appl1
54	726	31.2	406	10	US-09-782-587B-1	Sequence 1, Appl1
55	726	31.2	406	12	US-10-617-500-1	Sequence 1, Appl1
56	726	31.2	406	14	US-10-109-498-1	Sequence 1, Appl1
57	726	31.2	406	14	US-10-255-032-1	Sequence 1, Appl1
58	726	31.2	406	14	US-10-281-727-1	Sequence 1, Appl1
59	726	31.2	406	15	US-10-386-898-7	Sequence 7, Appl1
60	725.5	31.2	462	12	US-10-411-037-10	Sequence 10, Appl
61	725.5	31.2	462	12	US-10-411-026-10	Sequence 10, Appl
62	725.5	31.2	462	16	US-10-410-962-10	Sequence 10, Appl
63	725.5	31.2	462	16	US-10-411-049-10	Sequence 10, Appl
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65	671.5	28.9	419	12	US-10-382-248-36	Sequence 36, Appl
66	661	28.4	426	10	US-09-951-121A-1	Sequence 1, Appl1
67	661	28.4	426	10	US-09-848-107-1	Sequence 1, Appl1
68	661	28.4	426	14	US-10-295-682-1	Sequence 6, Appl1
69	632.5	27.2	394	16	US-10-038-854-6	Sequence 30, Appl1
70	631	27.2	421	12	US-10-406-031-30	GENERAL INFORMA
71	611.5	26.3	456	12	US-10-406-031-28	Sequence 8, Appl1
72	562.5	24.2	622	14	US-10-020-141-8	Sequence 2, Appl1
73	562.5	24.2	622	14	US-10-017-631-2	Sequence 11,6, App
74	562.5	24.2	622	14	US-10-214-932-116	Sequence 29, Appl
75	562.5	24.2	622	14	US-10-172-712-29	Sequence 410, App
76	510.5	22.0	799	12	US-10-072-012-410	Sequence 87, App
77	510.5	22.0	799	12	US-10-072-012-416	Sequence 155, App
78	488.5	21.0	230	11	US-09-981-151A-87	Sequence 804, App
79	488.5	21.0	230	11	US-09-981-151A-96	Sequence 812, App
80	488.5	21.0	230	12	US-10-042-665-155	Sequence 135, App
81	488.5	21.0	230	12	US-10-072-012-812	Sequence 83, App
82	488.5	21.0	230	12	US-10-072-012-812	Sequence 83, App
83	488.5	21.0	230	12	US-10-037-417-135	Sequence 66, Appl
84	488.5	21.0	230	14	US-10-037-189-66	Sequence 221, App
85	488.5	21.0	230	15	US-10-074-978A-221	Sequence 222, App
86	488.5	21.0	230	15	US-10-074-978A-222	Sequence 96, Appl
87	488.5	21.0	230	16	US-10-055-569A-96	Sequence 101, App
88	483.5	20.8	229	15	US-10-051-874-101	



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DB 301 GYHSSREKAKRNTFVNFYIKIPVPHNECEVSNVSNMNCAGILGDRQDACEGDS 360  
QY 361 GGPVVASFHGTWFLVGLVSWGCGLLHNYGYTVYSRYLDMHGHIRKPAPOKSMAP 419  
DB 361 GGPVVASFHGTWFLVGLVSWGCGLLHNYGYTVYSRYLDMHGHIRKPAPOKSMAP 419

## RESULT 3

US-10-182-263-1  
; Sequence 1, Application US/10182263  
; Publication No. US20030022354A1  
; GENERAL INFORMATION:  
; APPLICANT: Gerlitz, Bruce E  
; APPLICANT: Jones, Bryan E  
; APPLICANT: Grinnell, Brian W  
; TITLE OF INVENTION: PROTEIN C DERIVATIVES  
; FILE REFERENCE: X-13611  
; CURRENT APPLICATION NUMBER: US/10/182,263  
; CURRENT FILING DATE: 2002-07-22  
; PRIOR APPLICATION NUMBER: 60/181948  
; PRIOR FILING DATE: 2002-02-11  
; PRIOR APPLICATION NUMBER: 60/189199  
; PRIOR FILING DATE: 2000-03-14  
; NUMBER OF SEQ ID NOS: 12  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 1  
; LENGTH: 419  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-182-263-1

Query Match 100.0%; Score 2324; DB 14; Length 419;  
Best Local Similarity 100.0%; Pred. No. 3,8e-190;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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DB 181 SPWQVVLDSKKKLAAGAVLIHPSVWLTAAHGMDESKKLVRLGEYDLRRMEKWEILDLDI 240  
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DB 301 GYHSSREKAKRNTFVNFYIKIPVPHNECEVSNVSNMNCAGILGDRQDACEGDS 360  
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DB 361 GGPVVASFHGTWFLVGLVSWGCGLLHNYGYTVYSRYLDMHGHIRKPAPOKSMAP 419

## RESULT 4

US-10-168-407-1  
; Sequence 1, Application US/10168407  
; Publication No. US20030207435A1  
; GENERAL INFORMATION:  
; APPLICANT: Gerlitz, Bruce E  
; APPLICANT: Jones, Bryan E  
; TITLE OF INVENTION: PROTEIN C DERIVATIVES  
; FILE REFERENCE: X-13610  
; CURRENT APPLICATION NUMBER: US/10/168,407  
; CURRENT FILING DATE: 2002-11-04  
; NUMBER OF SEQ ID NOS: 12  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 1  
; LENGTH: 419  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-168-407-1

Query Match 100.0%; Score 2324; DB 15; Length 419;  
Best Local Similarity 100.0%; Pred. No. 3,8e-190;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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DB 1 ANSFLEELRHSSLERECIEICDFEBAKEIFQVNDTLTAFMSKVDGQCLVPLEHPCA 60  
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DB 61 SLCCGHTCTIDIGISFSCDCRSWGMRPCQREVSFLNCSLDNGGCTHYCLEEYGMRRCSG 120  
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DB 241 KEVFAHFNYSKSTTNDIALHLAOPATLSQTIYVPCLPDSGLARELNQAGETLVYGM 300  
QY 301 GYHSSREKAKRNTFVNFYIKIPVPHNECEVSNVSNMNCAGILGDRQDACEGDS 360  
DB 301 GYHSSREKAKRNTFVNFYIKIPVPHNECEVSNVSNMNCAGILGDRQDACEGDS 360  
QY 361 GGPVVASFHGTWFLVGLVSWGCGLLHNYGYTVYSRYLDMHGHIRKPAPOKSMAP 419  
DB 361 GGPVVASFHGTWFLVGLVSWGCGLLHNYGYTVYSRYLDMHGHIRKPAPOKSMAP 419

## RESULT 5

US-09-978-917A-2  
; Sequence 2, Application US/09978917A  
; Publication No. US20030027299A1  
; GENERAL INFORMATION:  
; APPLICANT: Maxygen Aps; Maxygen Holdings  
; TITLE OF INVENTION: Protein C or activated protein C-like molecules  
; FILE REFERENCE: 0219e310 - protein C  
; CURRENT APPLICATION NUMBER: US/09/978,917A  
; CURRENT FILING DATE: 2001-10-17  
; NUMBER OF SEQ ID NOS: 48  
; SOFTWARE: PatentIn Ver. 2.1

SEQ ID NO 2  
LENGTH: 461  
TYPE: PRT  
ORGANISM: Homo sapiens  
FEATURE:  
NAME/KEY: SIGNAL  
LOCATION: (1)...(42)  
FEATURE:  
NAME/KEY: CHAIN  
LOCATION: (43)...(461)  
US-09-978-917A-2

Query Match 100.0%; Score 2324; DB 10; Length 461;  
Best Local Similarity 100.0%; Pred. No. 4,3e-190;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLELRHSSLERECIEICDFEAKETIFQVNDTLAFMSKRVDDQCLVPLEHPCA 60  
DB 43 ANSFLELRHSSLERECIEICDFEAKETIFQVNDTLAFMSKRVDDQCLVPLEHPCA 102  
QY 61 SLCCGHGTCIDIGISFSCDRCGMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRCS 120  
DB 103 SLCCGHGTCIDIGISFSCDRCGMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRCS 162  
QY 121 APEGKLGDDLLQCHPAVPCGPRPKMEKKRSHLRDTEDEDDQVDPRLIDGKMTRRGD 180  
DB 163 APEGKLGDDLLQCHPAVPCGPRPKMEKKRSHLRDTEDEDDQVDPRLIDGKMTRRGD 222  
QY 181 SPQVVLDSKKKLAGAVLIHPSWVLTAAHCMDSEKSLVLRGEYDLRRMEKWEILD 240  
DB 223 SPQVVLDSKKKLAGAVLIHPSWVLTAAHCMDSEKSLVLRGEYDLRRMEKWEILD 282  
QY 241 KEVFAHPNYSKSTTDNDIALHLAOPATLSQTVIPICLPDSGLARELNQAGETLVYGM 300  
DB 283 KEVFAHPNYSKSTTDNDIALHLAOPATLSQTVIPICLPDSGLARELNQAGETLVYGM 342  
QY 301 GYHSSEKAKRNTFVLANFIKIPVPHNECEVMSNMVSENNLCAGILGRDACEGDS 360  
DB 343 GYHSSEKAKRNTFVLANFIKIPVPHNECEVMSNMVSENNLCAGILGRDACEGDS 402  
QY 361 GGPVVASFHGTWFLVGLVSWGEGCLHNHYGYTKVSRYLWIHGHIRKXAPQKSWAP 419  
DB 403 GGPVVASFHGTWFLVGLVSWGEGCLHNHYGYTKVSRYLWIHGHIRKXAPQKSWAP 461

## RESULT 6

US-09-997-623-2  
Sequence 2, Application US/09997623  
Publication No. US20030018175A1  
GENERAL INFORMATION:  
APPLICANT: Maxygen Aps; Maxygen Holdings  
TITLE OF INVENTION: Protein C or activated protein C-like molecules  
FILE REFERENCE: 02195410 - protein C  
CURRENT APPLICATION NUMBER: US/09/997,623  
PRIOR FILING DATE: 2001-11-29  
PRIOR APPLICATION NUMBER: US 09/978,917  
NUMBER OF SEQ ID NOS: 48  
SOFTWARE: Patentin Ver. 2.1  
SEQ ID NO 2  
LENGTH: 461  
TYPE: PRT  
ORGANISM: Homo sapiens  
FEATURE:  
NAME/KEY: SIGNAL  
LOCATION: (1)...(42)  
NAME/KEY: CHAIN  
LOCATION: (43)...(461)  
US-09-997-623-2

Query Match 100.0%; Score 2324; DB 12; Length 461;  
Best Local Similarity 100.0%; Pred. No. 4,3e-190;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLELRHSSLERECIEICDFEAKETIFQVNDTLAFMSKRVDDQCLVPLEHPCA 60  
DB 43 ANSFLELRHSSLERECIEICDFEAKETIFQVNDTLAFMSKRVDDQCLVPLEHPCA 102  
QY 61 SLCCGHGTCIDIGISFSCDRCGMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRCS 120  
DB 103 SLCCGHGTCIDIGISFSCDRCGMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRCS 162  
QY 121 APEGKLGDDLLQCHPAVPCGPRPKMEKKRSHLRDTEDEDDQVDPRLIDGKMTRRGD 180  
DB 163 APEGKLGDDLLQCHPAVPCGPRPKMEKKRSHLRDTEDEDDQVDPRLIDGKMTRRGD 222  
QY 181 SPQVVLDSKKKLAGAVLIHPSWVLTAAHCMDSEKSLVLRGEYDLRRMEKWEILD 240  
DB 223 SPQVVLDSKKKLAGAVLIHPSWVLTAAHCMDSEKSLVLRGEYDLRRMEKWEILD 282  
QY 241 KEVFAHPNYSKSTTDNDIALHLAOPATLSQTVIPICLPDSGLARELNQAGETLVYGM 300  
DB 283 KEVFAHPNYSKSTTDNDIALHLAOPATLSQTVIPICLPDSGLARELNQAGETLVYGM 342  
QY 301 GYHSSEKAKRNTFVLANFIKIPVPHNECEVMSNMVSENNLCAGILGRDACEGDS 360  
DB 343 GYHSSEKAKRNTFVLANFIKIPVPHNECEVMSNMVSENNLCAGILGRDACEGDS 402  
QY 361 GGPVVASFHGTWFLVGLVSWGEGCLHNHYGYTKVSRYLWIHGHIRKXAPQKSWAP 419  
DB 403 GGPVVASFHGTWFLVGLVSWGEGCLHNHYGYTKVSRYLWIHGHIRKXAPQKSWAP 461

## RESULT 7

US-10-182-263-2  
Sequence 2, Application US/10182263  
Publication No. US20030022354A1  
GENERAL INFORMATION:  
APPLICANT: Genitex, Bruce E  
APPLICANT: Jones, Bryan E  
APPLICANT: Grinnell, Brian W  
TITLE OF INVENTION: PROTEIN C DERIVATIVES  
FILE REFERENCE: X-13611  
CURRENT APPLICATION NUMBER: US/10/182,263  
PRIOR FILING DATE: 2002-07-22  
PRIOR APPLICATION NUMBER: 60/181948  
PRIOR FILING DATE: 2002-02-11  
PRIOR APPLICATION NUMBER: 60/189199  
NUMBER OF SEQ ID NOS: 12  
SOFTWARE: Patentin version 3.1  
SEQ ID NO 2  
LENGTH: 461  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-182-263-2

Query Match 100.0%; Score 2324; DB 14; Length 461;  
Best Local Similarity 100.0%; Pred. No. 4,3e-190;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLELRHSSLERECIEICDFEAKETIFQVNDTLAFMSKRVDDQCLVPLEHPCA 60  
DB 43 ANSFLELRHSSLERECIEICDFEAKETIFQVNDTLAFMSKRVDDQCLVPLEHPCA 102  
QY 61 SLCCGHGTCIDIGISFSCDRCGMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRCS 120  
DB 103 SLCCGHGTCIDIGISFSCDRCGMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRCS 162  
QY 121 APEGKLGDDLLQCHPAVPCGPRPKMEKKRSHLRDTEDEDDQVDPRLIDGKMTRRGD 180  
DB 163 APEGKLGDDLLQCHPAVPCGPRPKMEKKRSHLRDTEDEDDQVDPRLIDGKMTRRGD 222  
QY 181 SPQVVLDSKKKLAGAVLIHPSWVLTAAHCMDSEKSLVLRGEYDLRRMEKWEILD 240  
DB 223 SPQVVLDSKKKLAGAVLIHPSWVLTAAHCMDSEKSLVLRGEYDLRRMEKWEILD 282

```

QY      241 KEVFVHPNYSKSTTNDIALHLAOPATLSQTIIVPICLPDSGLARELNQAGQETLVYGM 300
      |||
Db      283 KEVFVHPNYSKSTTNDIALHLAOPATLSQTIIVPICLPDSGLARELNQAGQETLVYGM 342
QY      301 GYHSSREKAKNRFTVNFYIKIPVYPHNECEVMSNMVSENNLCAGILGRQDACEGDS 360
      |||
Db      343 GYHSSREKAKNRFTVNFYIKIPVYPHNECEVMSNMVSENNLCAGILGRQDACEGDS 402
QY      361 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGYTVKYSRYLDWIHGHIRDKAPQKSNAP 419
      |||
Db      403 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGYTVKYSRYLDWIHGHIRDKAPQKSNAP 461

```

## RESULT 8

US-10-168-407-2

```

; Sequence 2, Application US/10168407
; Publication No. US20030207435A1
; GENERAL INFORMATION:
; APPLICANT: Gerltz, Bruce E
; APPLICANT: Jones, Bryan E
; TITLE OF INVENTION: PROTEIN C DERIVATIVES
; FILE REFERENCE: X-13610
; CURRENT APPLICATION NUMBER: US/10/168,407
; CURRENT FILING DATE: 2002-11-04
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 461
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-168-407-2

```

```

Query Match      100.0%; Score 2324; DB 15; Length 461;
Best Local Similarity 100.0%; Pred. No. 4,3e-190;
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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```

QY      1 ANSFLEELRHSSLERECIEICDFEAKEIFQNVDDTLAFMSKHYVDGQCVLPLEHPCA 60
      |||
Db      43 ANSFLEELRHSSLERECIEICDFEAKEIFQNVDDTLAFMSKHYVDGQCVLPLEHPCA 102
QY      61 SLCCGHGTCTIDIGSFSCDCRSQWEGRFQREVSFLNCSLDNGGCTHYCLAEVGMRRCSG 120
      |||
Db      103 SLCCGHGTCTIDIGSFSCDCRSQWEGRFQREVSFLNCSLDNGGCTHYCLAEVGMRRCSG 162
QY      121 APGYKIGDILLQCHPAVYFPCGRPMKMEKRSKSLKRTEDQDQVDPRLIDGKMTRRGD 180
      |||
Db      163 APGYKIGDILLQCHPAVYFPCGRPMKMEKRSKSLKRTEDQDQVDPRLIDGKMTRRGD 222
QY      181 SPMQVVLDSKKKLAAGAVLIHPSWVLTAAHCOMESKKLVRLGEYDLRMEKWEMLDLDI 240
      |||
Db      223 SPMQVVLDSKKKLAAGAVLIHPSWVLTAAHCOMESKKLVRLGEYDLRMEKWEMLDLDI 282
QY      241 KEVFVHPNYSKSTTNDIALHLAOPATLSQTIIVPICLPDSGLARELNQAGQETLVYGM 300
      |||
Db      283 KEVFVHPNYSKSTTNDIALHLAOPATLSQTIIVPICLPDSGLARELNQAGQETLVYGM 342
QY      301 GYHSSREKAKNRFTVNFYIKIPVYPHNECEVMSNMVSENNLCAGILGRQDACEGDS 360
      |||
Db      343 GYHSSREKAKNRFTVNFYIKIPVYPHNECEVMSNMVSENNLCAGILGRQDACEGDS 402
QY      361 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGYTVKYSRYLDWIHGHIRDKAPQKSNAP 419
      |||
Db      403 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGYTVKYSRYLDWIHGHIRDKAPQKSNAP 461

```

## RESULT 9

US-10-168-407-3

```

; Sequence 3, Application US/10168407
; Publication No. US20030207435A1
; GENERAL INFORMATION:
; APPLICANT: Gerltz, Bruce E
; APPLICANT: Jones, Bryan E

```

```

; TITLE OF INVENTION: PROTEIN C DERIVATIVES
; FILE REFERENCE: X-13610
; CURRENT APPLICATION NUMBER: US/10/168,407
; CURRENT FILING DATE: 2002-11-04
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 3
; LENGTH: 419
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-168-407-3

```

```

Query Match      99.2%; Score 2306; DB 15; Length 419;
Best Local Similarity 99.0%; Pred. No. 1,3e-188;
Matches 415; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

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QY      1 ANSFLEELRHSSLERECIEICDFEAKEIFQNVDDTLAFMSKHYVDGQCVLPLEHPCA 60
      |||
Db      1 ANSFLEELRHSSLERECIEICDFEAKEIFQNVDDTLAFMSKHYVDGQCVLPLEHPCA 60
QY      61 SLCCGHGTCTIDIGSFSCDCRSQWEGRFQREVSFLNCSLDNGGCTHYCLAEVGMRRCSG 120
      |||
Db      61 SLCCGHGTCTIDIGSFSCDCRSQWEGRFQREVSFLNCSLDNGGCTHYCLAEVGMRRCSG 120
QY      121 APGYKIGDILLQCHPAVYFPCGRPMKMEKRSKSLKRTEDQDQVDPRLIDGKMTRRGD 180
      |||
Db      121 APGYKIGDILLQCHPAVYFPCGRPMKMEKRSKSLKRTEDQDQVDPRLIDGKMTRRGD 180
QY      181 SPMQVVLDSKKKLAAGAVLIHPSWVLTAAHCOMESKKLVRLGEYDLRMEKWEMLDLDI 240
      |||
Db      181 SPMQVVLDSKKKLAAGAVLIHPSWVLTAAHCOMESKKLVRLGEYDLRMEKWEMLDLDI 240
QY      241 KEVFVHPNYSKSTTNDIALHLAOPATLSQTIIVPICLPDSGLARELNQAGQETLVYGM 300
      |||
Db      241 KEVFVHPNYSKSTTNDIALHLAOPATLSQTIIVPICLPDSGLARELNQAGQETLVYGM 300
QY      301 GYHSSREKAKNRFTVNFYIKIPVYPHNECEVMSNMVSENNLCAGILGRQDACEGDS 360
      |||
Db      301 GYHSSREKAKNRFTVNFYIKIPVYPHNECEVMSNMVSENNLCAGILGRQDACEGDS 360
QY      361 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGYTVKYSRYLDWIHGHIRDKAPQKSNAP 419
      |||
Db      361 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGYTVKYSRYLDWIHGHIRDKAPQKSNAP 419

```

## RESULT 10

US-10-168-407-4

```

; Sequence 4, Application US/10168407
; Publication No. US20030207435A1
; GENERAL INFORMATION:
; APPLICANT: Gerltz, Bruce E
; APPLICANT: Jones, Bryan E
; TITLE OF INVENTION: PROTEIN C DERIVATIVES
; FILE REFERENCE: X-13610
; CURRENT APPLICATION NUMBER: US/10/168,407
; CURRENT FILING DATE: 2002-11-04
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 4
; LENGTH: 419
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-168-407-4

```

```

Query Match      99.1%; Score 2302; DB 15; Length 419;
Best Local Similarity 98.8%; Pred. No. 2,9e-188;
Matches 414; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

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```

QY      1 ANSFLEELRHSSLERECIEICDFEAKEIFQNVDDTLAFMSKHYVDGQCVLPLEHPCA 60
      |||
Db      1 ANSFLEELRHSSLERECIEICDFEAKEIFQNVDDTLAFMSKHYVDGQCVLPLEHPCA 60
QY      61 SLCCGHGTCTIDIGSFSCDCRSQWEGRFQREVSFLNCSLDNGGCTHYCLAEVGMRRCSG 120
      |||

```

Db 61 SLCCGHTCIDIGISFSCDCRSGBEGFCQREVSFLNCSLDNGGCTHYCLEEYGMRCSC 120  
QY 121 APGYKLDLQCHPAVKPCGRPMKMEKRSKSLKPDTEDEQDQVDPRLDGKMTRRGD 180  
Db 121 APGYKLDLQCHPAVKPCGRPMKMEKRSKSLKPDTEDEQDQVDPRLDGKMTRRGD 180  
QY 181 SPWQVVLDSKKKACGAVLIHPSWLTAAHOMESKSLVRLGEYDLRRMEKELDLDI 240  
Db 181 SPWQVVLDSKKKACGAVLIHPSWLTAAHOMESKSLVRLGEYDLRRMEKELDLDI 240  
QY 241 KEVFAHPNYSKSTTNDIALHLAOPATLSQTIYVICLPDSGLAEREINOGAGETLVYGM 300  
Db 241 KEVFAHPNYSKSTTNDIALHLAOPATLSQTIYVICLPDSGLAEREINOGAGETLVYGM 300  
QY 301 GHSSREKAKNRRTFVNFILKIPVPHNECEVMSNVSNNMLCAGILGDRDACEGDS 360  
Db 301 GHSSREKAKNRRTFVNFILKIPVPHNECEVMSNVSNNMLCAGILGDRDACEGDS 360  
QY 361 GGPVWASPHGTWFLVGLVSMGEGCLAHNYGYVTKYSRYLDMIGHIRDXKAPOKSWAP 419  
Db 361 GGPVWASPHGTWFLVGLVSMGEGCLAHNYGYVTKYSRYLDMIGHIRDXKAPOKSWAP 419

## RESULT 11

US-10-670-628-2  
; Sequence 2, Application US/10670628  
; Publication No. US20040038288A1  
; GENERAL INFORMATION:  
; APPLICANT: Huang, Lihua  
; APPLICANT: Riggin, Ralph M  
; TITLE OF INVENTION: HUMAN PROTEIN C POLYPEPTIDE  
; FILE REFERENCE: X-12279  
; CURRENT APPLICATION NUMBER: US/10/670,628  
; CURRENT FILING DATE: 2003-09-25  
; NUMBER OF SEQ ID NOS: 2  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 2  
; LENGTH: 415  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: recombinant human protein c  
US-10-670-628-2

Query Match 98.9%; Score 2298; DB 12; Length 415;  
Best Local Similarity 100.0%; Pred. No. 6, 2e-188;  
Matches 415; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLEELRHSSLSRECEIEICDPEAKEIFQNVDDTLAFMSKHYDQGLVPLBHPCA 60  
Db 1 ANSFLEELRHSSLSRECEIEICDPEAKEIFQNVDDTLAFMSKHYDQGLVPLBHPCA 60  
QY 61 SLCCGHTCIDIGISFSCDCRSGBEGFCQREVSFLNCSLDNGGCTHYCLEEYGMRCSC 120  
Db 61 SLCCGHTCIDIGISFSCDCRSGBEGFCQREVSFLNCSLDNGGCTHYCLEEYGMRCSC 120  
QY 121 APGYKLDLQCHPAVKPCGRPMKMEKRSKSLKPDTEDEQDQVDPRLDGKMTRRGD 180  
Db 121 APGYKLDLQCHPAVKPCGRPMKMEKRSKSLKPDTEDEQDQVDPRLDGKMTRRGD 180  
QY 181 SPWQVVLDSKKKACGAVLIHPSWLTAAHOMESKSLVRLGEYDLRRMEKELDLDI 240  
Db 181 SPWQVVLDSKKKACGAVLIHPSWLTAAHOMESKSLVRLGEYDLRRMEKELDLDI 240  
QY 241 KEVFAHPNYSKSTTNDIALHLAOPATLSQTIYVICLPDSGLAEREINOGAGETLVYGM 300  
Db 241 KEVFAHPNYSKSTTNDIALHLAOPATLSQTIYVICLPDSGLAEREINOGAGETLVYGM 300  
QY 301 GHSSREKAKNRRTFVNFILKIPVPHNECEVMSNVSNNMLCAGILGDRDACEGDS 360  
Db 301 GHSSREKAKNRRTFVNFILKIPVPHNECEVMSNVSNNMLCAGILGDRDACEGDS 360

QY 361 GGPVWASPHGTWFLVGLVSMGEGCLAHNYGYVTKYSRYLDMIGHIRDXKAPOK 415  
Db 361 GGPVWASPHGTWFLVGLVSMGEGCLAHNYGYVTKYSRYLDMIGHIRDXKAPOK 415

## RESULT 12

US-10-168-407-5  
; Sequence 5, Application US/10168407  
; Publication No. US20030207435A1  
; GENERAL INFORMATION:  
; APPLICANT: Gerlitz, Bruce E  
; APPLICANT: Jones, Bryan E  
; TITLE OF INVENTION: PROTEIN C DERIVATIVES  
; FILE REFERENCE: X-13610  
; CURRENT APPLICATION NUMBER: US/10/168,407  
; CURRENT FILING DATE: 2002-11-04  
; NUMBER OF SEQ ID NOS: 12  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 5  
; LENGTH: 419  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-168-407-5

Query Match 98.9%; Score 2298; DB 15; Length 419;  
Best Local Similarity 98.8%; Pred. No. 6, 3e-188;  
Matches 414; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 1 ANSFLEELRHSSLSRECEIEICDPEAKEIFQNVDDTLAFMSKHYDQGLVPLBHPCA 60  
Db 1 ANSFLEELRHSSLSRECEIEICDPEAKEIFQNVDDTLAFMSKHYDQGLVPLBHPCA 60  
QY 61 SLCCGHTCIDIGISFSCDCRSGBEGFCQREVSFLNCSLDNGGCTHYCLEEYGMRCSC 120  
Db 61 SLCCGHTCIDIGISFSCDCRSGBEGFCQREVSFLNCSLDNGGCTHYCLEEYGMRCSC 120  
QY 121 APGYKLDLQCHPAVKPCGRPMKMEKRSKSLKPDTEDEQDQVDPRLDGKMTRRGD 180  
Db 121 APGYKLDLQCHPAVKPCGRPMKMEKRSKSLKPDTEDEQDQVDPRLDGKMTRRGD 180  
QY 181 SPWQVVLDSKKKACGAVLIHPSWLTAAHOMESKSLVRLGEYDLRRMEKELDLDI 240  
Db 181 SPWQVVLDSKKKACGAVLIHPSWLTAAHOMESKSLVRLGEYDLRRMEKELDLDI 240  
QY 241 KEVFAHPNYSKSTTNDIALHLAOPATLSQTIYVICLPDSGLAEREINOGAGETLVYGM 300  
Db 241 KEVFAHPNYSKSTTNDIALHLAOPATLSQTIYVICLPDSGLAEREINOGAGETLVYGM 300  
QY 301 GHSSREKAKNRRTFVNFILKIPVPHNECEVMSNVSNNMLCAGILGDRDACEGDS 360  
Db 301 GHSSREKAKNRRTFVNFILKIPVPHNECEVMSNVSNNMLCAGILGDRDACEGDS 360  
QY 361 GGPVWASPHGTWFLVGLVSMGEGCLAHNYGYVTKYSRYLDMIGHIRDXKAPOKSWAP 419  
Db 361 GGPVWASPHGTWFLVGLVSMGEGCLAHNYGYVTKYSRYLDMIGHIRDXKAPOKSWAP 419

## RESULT 13

US-10-182-263-5  
; Sequence 5, Application US/10182263  
; Publication No. US20030022354A1  
; GENERAL INFORMATION:  
; APPLICANT: Gerlitz, Bruce E  
; APPLICANT: Jones, Bryan E  
; APPLICANT: Grinnell, Brian W  
; TITLE OF INVENTION: PROTEIN C DERIVATIVES  
; FILE REFERENCE: X-13611  
; CURRENT APPLICATION NUMBER: US/10/182,263  
; CURRENT FILING DATE: 2002-07-22  
; PRIOR APPLICATION NUMBER: 60/181948  
; PRIOR FILING DATE: 2002-02-11  
; PRIOR APPLICATION NUMBER: 60/189199



PRIOR FILING DATE: 2000-03-14  
 NUMBER OF SEQ ID NOS: 12  
 SOFTWARE: PatentIn version 3.1  
 SEQ ID NO 5  
 LENGTH: 419  
 TYPE: PRT  
 ORGANISM: Homo sapiens  
 US-10-182-263-5

Query Match 98.8%; Score 2296; DB 14; Length 419;  
 Best Local Similarity 98.8%; Pred. No. 9,46-187;  
 Matches 414; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 1 ANSTLEIRHSSLEKCEIEICDPEAKETIFQVNDITLAFMSKRVDSGQCLVPLEHPCA 60  
 DB 1 ANSTLEIRHSSLEKCEIEICDPEAKETIFEDVDDTLAFMSKRVDSGQCLVPLEHPCA 60  
 QY 61 SLCCGHTCIDIGISFSCDCRSQMEGRFCQREVSFLNCSLDNGGCTHYCLEEYGMRRSC 120  
 DB 61 SLCCGHTCIDIGISFSCDCRSQMEGRFCQREVSFLNCSLDNGGCTHYCLEEYGMRRSC 120  
 QY 121 APGYKGDLLQCHPAVFPQGRPMKMEKRSKHKDTEDEQDQVDPRLIDGMTRRGD 180  
 DB 121 APGYKGDLLQCHPAVFPQGRPMKMEKRSKHKDTEDEQDQVDPRLIDGMTRRGD 180  
 QY 181 SPQVVLDSKKKLCAGAVLIHPSWVLTAAHCDMSKKLVRLGEYDLRRMEKELDDI 240  
 DB 181 SPQVVLDSKKKLCAGAVLIHPSWVLTAAHCDMSKKLVRLGEYDLRRMEKELDDI 240  
 QY 241 KEVFNHNSKSTTNDIALHLAQPATLSQTVICLPDSGLAEELNOAGETLVGM 300  
 DB 241 KEVFNHNSKSTTNDIALHLAQPATLSQTVICLPDSGLAEELNOAGETLVGM 300  
 QY 301 GYHSSREKAKRNTFVNFIKIPVPHNECEVMSNMVSENNLCAGILGRDACEGDS 360  
 DB 301 GYHSSREKAKRNTFVNFIKIPVPHNECEVMSNMVSENNLCAGILGRDACEGDS 360  
 QY 361 GGPWVASFHGTWFLVGLVSWGEGCGLIHNYGYTVKSYLDWIGHIRKAPKSNAP 419  
 DB 361 GGPWVASFHGTWFLVGLVSWGEGCGLIHNYGYTVKSYLDWIGHIRKAPKSNAP 419

RESULT 14  
 US-10-168-407-6  
 Sequence 6, Application US/10168407  
 Publication No. US20030207435A1  
 GENERAL INFORMATION:  
 APPLICANT: Gerlitz, Bruce E  
 APPLICANT: Jones, Bryan E  
 TITLE OF INVENTION: PROTEIN C DERIVATIVES  
 FILE REFERENCE: X-13610  
 CURRENT APPLICATION NUMBER: US/10/168,407  
 PRIOR FILING DATE: 2002-11-04  
 NUMBER OF SEQ ID NOS: 12  
 SOFTWARE: PatentIn version 3.1  
 SEQ ID NO 6  
 LENGTH: 419  
 TYPE: PRT  
 ORGANISM: Homo sapiens  
 US-10-168-407-6

Query Match 98.7%; Score 2294; DB 15; Length 419;  
 Best Local Similarity 98.6%; Pred. No. 1,46-187;  
 Matches 413; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

QY 1 ANSTLEIRHSSLEKCEIEICDPEAKETIFQVNDITLAFMSKRVDSGQCLVPLEHPCA 60  
 DB 1 ANSTLEIRHSSLEKCEIEICDPEAKETIFEDVDDTLAFMSKRVDSGQCLVPLEHPCA 60  
 QY 61 SLCCGHTCIDIGISFSCDCRSQMEGRFCQREVSFLNCSLDNGGCTHYCLEEYGMRRSC 120  
 DB 61 SLCCGHTCIDIGISFSCDCRSQMEGRFCQREVSFLNCSLDNGGCTHYCLEEYGMRRSC 120

QY 121 APGYKGDLLQCHPAVFPQGRPMKMEKRSKHKDTEDEQDQVDPRLIDGMTRRGD 180  
 DB 121 APGYKGDLLQCHPAVFPQGRPMKMEKRSKHKDTEDEQDQVDPRLIDGMTRRGD 180  
 QY 181 SPQVVLDSKKKLCAGAVLIHPSWVLTAAHCDMSKKLVRLGEYDLRRMEKELDDI 240  
 DB 181 SPQVVLDSKKKLCAGAVLIHPSWVLTAAHCDMSKKLVRLGEYDLRRMEKELDDI 240  
 QY 241 KEVFNHNSKSTTNDIALHLAQPATLSQTVICLPDSGLAEELNOAGETLVGM 300  
 DB 241 KEVFNHNSKSTTNDIALHLAQPATLSQTVICLPDSGLAEELNOAGETLVGM 300  
 QY 301 GYHSSREKAKRNTFVNFIKIPVPHNECEVMSNMVSENNLCAGILGRDACEGDS 360  
 DB 301 GYHSSREKAKRNTFVNFIKIPVPHNECEVMSNMVSENNLCAGILGRDACEGDS 360  
 QY 361 GGPWVASFHGTWFLVGLVSWGEGCGLIHNYGYTVKSYLDWIGHIRKAPKSNAP 419  
 DB 361 GGPWVASFHGTWFLVGLVSWGEGCGLIHNYGYTVKSYLDWIGHIRKAPKSNAP 419

RESULT 15  
 US-10-182-263-3  
 Sequence 3, Application US/10182263  
 Publication No. US2003022354A1  
 GENERAL INFORMATION:  
 APPLICANT: Gerlitz, Bruce E  
 APPLICANT: Jones, Bryan E  
 APPLICANT: Grinnell, Brian W  
 TITLE OF INVENTION: PROTEIN C DERIVATIVES  
 FILE REFERENCE: X-13611  
 CURRENT APPLICATION NUMBER: US/10/182,263  
 PRIOR FILING DATE: 2002-07-22  
 PRIOR APPLICATION NUMBER: 60/181948  
 PRIOR FILING DATE: 2002-02-11  
 PRIOR APPLICATION NUMBER: 60/189199  
 PRIOR FILING DATE: 2000-03-14  
 NUMBER OF SEQ ID NOS: 12  
 SOFTWARE: PatentIn version 3.1  
 SEQ ID NO 3  
 LENGTH: 419  
 TYPE: PRT  
 ORGANISM: Homo sapiens  
 US-10-182-263-3

Query Match 98.5%; Score 2290; DB 14; Length 419;  
 Best Local Similarity 98.6%; Pred. No. 3,16-187;  
 Matches 413; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

QY 1 ANSTLEIRHSSLEKCEIEICDPEAKETIFQVNDITLAFMSKRVDSGQCLVPLEHPCA 60  
 DB 1 ANSTLEIRHSSLEKCEIEICDPEAKETIFEDVDDTLAFMSKRVDSGQCLVPLEHPCA 60  
 QY 61 SLCCGHTCIDIGISFSCDCRSQMEGRFCQREVSFLNCSLDNGGCTHYCLEEYGMRRSC 120  
 DB 61 SLCCGHTCIDIGISFSCDCRSQMEGRFCQREVSFLNCSLDNGGCTHYCLEEYGMRRSC 120  
 QY 121 APGYKGDLLQCHPAVFPQGRPMKMEKRSKHKDTEDEQDQVDPRLIDGMTRRGD 180  
 DB 121 APGYKGDLLQCHPAVFPQGRPMKMEKRSKHKDTEDEQDQVDPRLIDGMTRRGD 180  
 QY 181 SPQVVLDSKKKLCAGAVLIHPSWVLTAAHCDMSKKLVRLGEYDLRRMEKELDDI 240  
 DB 181 SPQVVLDSKKKLCAGAVLIHPSWVLTAAHCDMSKKLVRLGEYDLRRMEKELDDI 240  
 QY 241 KEVFNHNSKSTTNDIALHLAQPATLSQTVICLPDSGLAEELNOAGETLVGM 300  
 DB 241 KEVFNHNSKSTTNDIALHLAQPATLSQTVICLPDSGLAEELNOAGETLVGM 300  
 QY 301 GYHSSREKAKRNTFVNFIKIPVPHNECEVMSNMVSENNLCAGILGRDACEGDS 360  
 DB 301 GYHSSREKAKRNTFVNFIKIPVPHNECEVMSNMVSENNLCAGILGRDACEGDS 360

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REGISTRATION NUMBER: 42,271
REFERENCE/DOCKET NUMBER: 20695D-000900US
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-576-0200
TELEFAX: 415-576-0300
TELEX: <unknown>
INFORMATION FOR SEQ ID NO: 44:
SEQUENCE CHARACTERISTICS:
LENGTH: 488 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 44:
US-10-348-504-44

Query Match      34.6%; Score 803; DB 14; Length 488;
Best Local Similarity 35.4%; Pred. No. 4,7e-60;
Matches 162; Conservative 87; Mismatches 152; Indels 56; Gaps 9

QY 1 ANSFEELRHSSLRERCIIEIDCFEERAKELFQNVDDTLAFMSKRVHDGQCVLELHPCA 60
DB 41 ANSFELEKMKKHLEFREROMETSYEARERLEVEDSDKTNLEFNNKXKQGDCEETSP----- 94

QY 61 SLCCGTCITDGTGSSCCCRSGMEGRFCQREAVSLNSLNDGCTTHYCLEVEGMRCSC 120
DB 95 --QWQKCKKDGLEYCTCTLEGFEGKNCLELFTKRL--CSLNDSDCQCFESQNSVYSC 151

QY 121 APGRKLDGLQCHPAKPCGGRPWKMEKKSHLKRPDEDE-----QVD 167
DB 152 ARGTITLNDNGRACLPYGPFPCK--QTLERKRKSAVAQNTSSGEADSLITWPKYDADLD 209

QY 168 P-----RLDERKTRRQDSFQVVLDSKKKLACGAVLIHS 204
DB 210 PTENPFDLDLNFQTOPERGDNNLFTIVGGQECQKDCQPMALLINENSGFCGGTILSEF 269

QY 205 MWTLAHCHMDSSKXLYLRIEYDLRMEKKLELDIDKVFVHPVYSKSTTNDJLHLA 264
DB 270 YLLTAHCHLYQAKFKPKRQGDNRTQEEGSAVHEVEVYIHNKFTKTYDDLDLNLRLK 329

QY 265 QPATLSQITVPLCPDGSGLAERELNQAQET-LVTGWSYHSSREKAKENRTFVLNFIKI 323
DB 330 TPIFFMNVAPACLPEDMAESTL--MTQKTGISGFGRTKRRQSTR-----LKMLEY 382

QY 324 PVPFPHCEGFWMSNMVSENNLCAGLIDRDQDAGEGSGPMVASFHSITWFLVGLVSGEG 383
DB 383 PYVDNRSCLSGSSSFTITQNNFPAQGYDTQKQDAGQSGSGPVHTRFKDTITFVGLVSGES 442

QY 384 CGLLHNVGYTVKSRVYLDWIGHIRDKKAQD-KSMAP 419
DB 443 CARKGYGYITKYTAFLKMLDRSMKTRQLPKASHP 479

RESULT 20
US-10-407-123-27
Sequence 27, Application US/10407123
Publication No. US20030181381A1
GENERAL INFORMATION:
APPLICANT: Himmelspach, Michele
Schlokat, Uwe
Dorner, Friedrich
Fisch, Andreas
Eibl, Johann
TITLE OF INVENTION: Factor X Analogues With
a Modified Protease Cleavage Site
NUMBER OF SEQUENCES: 122
CORRESPONDENCE ADDRESS:
ADDRESSER: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
CITY: San Francisco
STATE: CA
COUNTRY: USA
ZIP: 94111-3834

```

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/ Sequence 3 Application US/09782587B
/ Publication No. US20030096338A1
/ GENERAL INFORMATION:
/ APPLICANT: PEDERSEN, ANDERS H.
/ APPLICANT: ANDERSON, KIM V.
/ APPLICANT: BORNAAS, CLAUS
/ TITLE OF INVENTION: FACTOR VII OR VIIA-LIKE MOLECULES
/ FILE REFERENCE: 31-00100US
/ CURRENT APPLICATION NUMBER: US/09/782,587B
/ CURRENT FILING DATE: 2002-03-26
/ PRIOR APPLICATION NUMBER: PA 2000 00218
/ PRIOR FILING DATE: 2000-02-11
/ PRIOR APPLICATION NUMBER: 60/184,036
/ PRIOR FILING DATE: 2000-02-22
/ PRIOR APPLICATION NUMBER: 60/241,916
/ PRIOR FILING DATE: 2000-10-18
/ NUMBER OF SEQ ID NOS: 19
/ SOFTWARE: PatentIn Ver. 2.1
/ SEQ ID NO 3
/ LENGTH: 406
/ TYPE: PRT
/ ORGANISM: Homo sapiens
US-09-782-587B-3

Query Match      33.7%; Score 783; DB 10; Length 406;
Best Local Similarity 38.8%; Pctd. No. 1,9e-58;
Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10

      1  ANSFLEETRHSSIERECIEICDFEFAKEIFQNVDDTLAFMSKRVHDQCLVPLRHPCA 60
Db      1  ANNFLEERPSGLERCKEKGQSFEEARLIFDARERTKLFMISYSDQC-----AS 52

      61  SLCCGHTGCTIDIGSFSCDCRSQMGSRFCQ-REVSFLNCSLDNGCCTTHCLEBYGMRR-C 118
QY      53  SPQNGSGSCXKQLQSYICFLCAFEGNCCETHKDQLLCVNENGGEQYCSBHTGTGRSC 112

      119  SCAPKRGDLDLCCPANKYPCQGRPKMKREKKSHTLKRTDEQEDQVPLRIDGKATRR 178
Db      113  KCHRGVSLADGVSCITPYEYPCGK-IPLEKRN-----SKPGKRIYGGKVCPR 161

      179  GDSPPWQVVLDDSKKKLACGAVLIHPSWVLTAAHCDESK--KLVLAGEYDLRMREKME 235
QY      162  GECPQVVLTLVNGAQL-CGGLTINTIWVSAACHCPDKIKMNRNLIIVAGEHDLSEHDGDE 220

      226  LDDITKPYFVPMNSKSTDDNDIALHLAQPNLTQTIYPLCLPDAGLABRELNAGQET 295
Db      221  QSRRAVQVITISYVPEPTNHDLALRLHQPVVLIDVHVPLCLPEPTTBERTLAFAV-RFS 279

      296  LVTGWSYHSSSEKEAKRNTFLYNFIKLPVPHNECSEVM-----SNWVSEMLCAGILG 350
QY      280  LVSGWQQLIDRGATA-----LELVAVNPLRMODCLQOSKRVQDSBPNTIYMFCAQYSD 334

      351  DRDACEGDSGGPEWVASFHGTFPLVLGVNSGEGCGLINNVGVYTKYSRYLMDIHGHTRDK 410
QY      335  GSKDSCCKGDSGGPEATHRGYTWLVLTGVNSGQCATVGHFVTVRVSÖYIEMLOKLRSE 354

      411  EAP 413
QY
Db      395  PRP 397

RESULT 22
US-10-383-898-1
/ Sequence 1, Application US/10383898
/ Publication No. US20040009914A1
/ GENERAL INFORMATION:
/ APPLICANT: Emory University
/ TITLE OF INVENTION: Curcuminoid-protein conjugates
/ FILE REFERENCE: E056 1060.1
/ CURRENT APPLICATION NUMBER: US/10/383,898
/ CURRENT FILING DATE: 2003-03-07
/ NUMBER OF SEQ ID NOS: 1
/ SOFTWARE: PatentIn version 3.2

```

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; SEQ ID NO 1
; LENGTH: 406
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: CHAIN
; LOCATION: (1)..(406)
US-10-383-898-1
```

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Query Match 33.7%; Score 783; DB 15; Length 406;
Best Local Similarity 38.8%; Pred. No. 1.9e-58;
Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;
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QY 1 ANSFLELRHSLRECEIEICDFEBAKEIFQNDTLAFWSKHVDGQCLVPLRHPCA 60
D 1 ANAFLELRHSLRECEIEICDFEBAKEIFQNDTLAFWSKHVDGQCLVPLRHPCA 60
QY 61 SLCCGHTCTIDIGSFSCDCRSGMGRFCQ-REVSFLNCSLDNGGCTHYCLEEVGMR-C 118
D 53 SPQNGGSCKDQLOSYICFLPAFEGRCETHKDDQICVNEGGCEQYCSDHGTGRSC 112
QY 119 SCAPGYKLGDDLLQCHPAVFPFGCPKMKMKKSHLKRPTEDQEDQVDPRLIDGKMTTR 178
D 113 RCHGYSGLADGVSCTPTVEYPCGK-IPLEKRNA-----SKPGRIYVGGKCPK 161
QY 179 GDSFQVYLLDSSKKLACGAVLHPSMVLTAHQMDESK--KLIVRGEYDLRRMEKE 235
D 162 GECPWQVLLVNGAQL-CGGLINTITWVSAHCFDKIKMKNLILVGEHDLSEHDGE 220
QY 236 LDDIKEVFPVHNYSKSTTNDIALHLAQPATLSQTTVPCIPDSGLARELNQAGQET 295
D 221 QSRVAVQVILPSTYPTGTNHDILRLHQPVLLDHWVLCIPERTSEERTLAFV-RFS 279
QY 296 LVTMGVSHSRKEKAKRRNRFVNLFIKIPVPHNECEVW-----SNWVENMLCAGILG 350
D 280 LVSGWQGLDRGATL-----LELMVNLVPRIMTQCLQSKRGKDSPNITETMFCAGYSD 334
QY 351 DRDACEGDSGGPMVASFHGTWFLVGVSWGCGGLLHNYVYTKYSYLLDMIHGHRDK 410
D 335 GSKDSCGDSGGPHHTYRGTWLITGVSWGGCATVGHGVTYVSQYLEWLOKLMRSE 394
QY 411 EAP 413
D 395 PRP 397
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RESULT 23
US-10-263-205B-2
; Sequence 2, Application US/10263205B
; Publication No. US20040087498A1
; GENERAL INFORMATION:
; APPLICANT: BERKNER, Kathleen L.
; APPLICANT: PETERSEN, Iars
; APPLICANT: HART, Charles E.
; APPLICANT: HEDNER, Ulla
; APPLICANT: BERGENGAARD, Claus
; TITLE OF INVENTION: MODIFIED FACTOR VII
; FILE REFERENCE: 13952N-8-5-1
; CURRENT APPLICATION NUMBER: US/10/263,205B
; CURRENT FILING DATE: 2002-10-01
; PRIOR APPLICATION NUMBER: 08/464,029
; PRIOR FILING DATE: 1995-06-05
; PRIOR APPLICATION NUMBER: 08/327,690
; PRIOR FILING DATE: 1994-10-24
; PRIOR APPLICATION NUMBER: PCT/US94/05779
; PRIOR FILING DATE: 1994-05-23
; PRIOR APPLICATION NUMBER: 08/065,725
; PRIOR FILING DATE: 1993-05-21
; PRIOR APPLICATION NUMBER: PCT/US92/01636
; PRIOR FILING DATE: 1991-02-28
; PRIOR APPLICATION NUMBER: 07/662,920
; PRIOR FILING DATE: 1991-02-28
; NUMBER OF SEQ ID NOS: 5
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; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 2
; LENGTH: 406
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-263-205B-2
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```
Query Match 33.7%; Score 783; DB 16; Length 406;
Best Local Similarity 38.8%; Pred. No. 1.9e-58;
Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;
```

```
QY 1 ANSFLELRHSLRECEIEICDFEBAKEIFQNDTLAFWSKHVDGQCLVPLRHPCA 60
D 1 ANAFLELRHSLRECEIEICDFEBAKEIFQNDTLAFWSKHVDGQCLVPLRHPCA 60
QY 61 SLCCGHTCTIDIGSFSCDCRSGMGRFCQ-REVSFLNCSLDNGGCTHYCLEEVGMR-C 118
D 53 SPQNGGSCKDQLOSYICFLPAFEGRCETHKDDQICVNEGGCEQYCSDHGTGRSC 112
QY 119 SCAPGYKLGDDLLQCHPAVFPFGCPKMKMKKSHLKRPTEDQEDQVDPRLIDGKMTTR 178
D 113 RCHGYSGLADGVSCTPTVEYPCGK-IPLEKRNA-----SKPGRIYVGGKCPK 161
QY 179 GDSFQVYLLDSSKKLACGAVLHPSMVLTAHQMDESK--KLIVRGEYDLRRMEKE 235
D 162 GECPWQVLLVNGAQL-CGGLINTITWVSAHCFDKIKMKNLILVGEHDLSEHDGE 220
QY 236 LDDIKEVFPVHNYSKSTTNDIALHLAQPATLSQTTVPCIPDSGLARELNQAGQET 295
D 221 QSRVAVQVILPSTYPTGTNHDILRLHQPVLLDHWVLCIPERTSEERTLAFV-RFS 279
QY 296 LVTMGVSHSRKEKAKRRNRFVNLFIKIPVPHNECEVW-----SNWVENMLCAGILG 350
D 280 LVSGWQGLDRGATL-----LELMVNLVPRIMTQCLQSKRGKDSPNITETMFCAGYSD 334
QY 351 DRDACEGDSGGPMVASFHGTWFLVGVSWGCGGLLHNYVYTKYSYLLDMIHGHRDK 410
D 335 GSKDSCGDSGGPHHTYRGTWLITGVSWGGCATVGHGVTYVSQYLEWLOKLMRSE 394
QY 411 EAP 413
D 395 PRP 397
```

```
RESULT 24
US-10-411-037-8
; Sequence 8, Application US/10411037
; Publication No. US20040043446A1
; GENERAL INFORMATION:
; APPLICANT: Neose Technologies, Inc.
; APPLICANT: DeFrees, Shawn
; APPLICANT: Zopf, David
; APPLICANT: Bayer, Robert
; APPLICANT: Hakes, David
; APPLICANT: Chen, Xi
; APPLICANT: Bove, Caryn
; TITLE OF INVENTION: ALPHA GALACTOSIDASE A
; FILE REFERENCE: 040853-01-5082
; CURRENT APPLICATION NUMBER: US/10/411,037
; CURRENT FILING DATE: 2003-04-09
; PRIOR APPLICATION NUMBER: US 60/328,523
; PRIOR FILING DATE: 2001-10-10
; PRIOR APPLICATION NUMBER: US 60/344,692
; PRIOR FILING DATE: 2001-10-19
; PRIOR APPLICATION NUMBER: US 60/387,292
; PRIOR FILING DATE: 2002-06-07
; PRIOR APPLICATION NUMBER: US 60/391,777
; PRIOR FILING DATE: 2002-06-25
; PRIOR APPLICATION NUMBER: US 60/396,594
; PRIOR FILING DATE: 2002-07-17
; PRIOR APPLICATION NUMBER: US 60/404,249
; PRIOR FILING DATE: 2002-08-16
```

PRIOR APPLICATION NUMBER: US 60/407,527  
PRIOR FILING DATE: 2002-08-28  
NUMBER OF SEQ ID NOS: 75  
SOFTWARE: PatentIn version 3.2  
SEQ ID NO 8  
LENGTH: 444  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-411-037-8

Query Match 33.7%; Score 783; DB 12; Length 444;  
Best Local Similarity 38.8%; Pred. No. 2,2e-58;  
Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;

QY 1 ANSFEELRHSSLEPCEIEIDPEFAKEIFQVNDTLAFSKSVODQCVLPLEHCA 60  
DB 39 ANAFLEELRPSGLERCKEKEQCSFEARELIFKDAERTKLFMISYSDQDQ-----AS 90  
QY 61 SLCCGHTCIDGIGSFCDCRSWGGRFCQ-REVSFLNCSLDNGGCTHYCLEVGMRR-C 118  
DB 91 SPCQNGSSCKDQLOSTYICFLPAFGRNCETHDDQLCNENGGCGQYCSDHGTGKSC 150  
QY 119 SCAPGYKLGDDLQCHPAVFPQGRPMKMEKRSLSKRTDEDEQDVDRLLDGKMTTR 178  
DB 151 RHEGYSILADGVSCPTVEYPCGK-IPLEKRNA-----SKQSRIVGKVCCK 199  
QY 179 GSPFWQVLLDSKKKLAGAVLIHPSWLTFAHQMDESK---KLVLRYDRLRMKEKE 235  
DB 200 GECPMQVLLVNGAQL-CGGLTINTIVWSAHCFCFKIMRNLIYVGHDSHDGDE 258  
QY 236 LDDIREVFNHNSKSTNDIALHLAOPATLSQTIYVICLPDSGIAEREINQAGET 295  
DB 259 QSRVAQVITISYVPEGTINHDIALRLHQPVVLTJHVPLCLPERFISRTIAFV-RFS 317  
QY 296 LVTGNGYSSSEKAKRNTFVLANFKIPVPHNEGSEVM-----SNWSENNLCAGILG 350  
DB 318 LVSGWQGLIDGATV-----LEIMVIANVPRMLTQDCLQSRKVGDSPIETIYFCAGYS 372  
QY 351 DRDACEGDSGPMWASFEHGTWFLVLSWGEGGGLHHYVYTVSRYLDWIHGIRDK 410  
DB 373 GSKDSCKGDSGGPHATIRGTWILGIVSWGQCATVGFYTRVSYIEWLQKLMSE 432  
QY 411 EAP 413  
DB 433 PRP 435

RESULT 25  
US-10-382-248-34  
Sequence 34, Application US/10382248  
Publication No. US20040058347A1  
GENERAL INFORMATION:  
APPLICANT: Alsbjork, et al.  
TITLE OF INVENTION: NOVEL PROTEINS AND NUCLEIC ACIDS ENCODING SAME  
FILE REFERENCE: 21402-568C  
CURRENT APPLICATION NUMBER: US/10/382,248  
PRIOR FILING DATE: 2003-03-05  
PRIOR APPLICATION NUMBER: 60/366,928  
PRIOR FILING DATE: 2002-03-22  
PRIOR APPLICATION NUMBER: 60/361,974  
PRIOR FILING DATE: 2002-03-06  
PRIOR APPLICATION NUMBER: 60/365,477  
PRIOR FILING DATE: 2002-03-19  
PRIOR APPLICATION NUMBER: 60/401,661  
PRIOR FILING DATE: 2002-08-06  
NUMBER OF SEQ ID NOS: 82  
SOFTWARE: Cursedqist version 0.1  
SEQ ID NO 34  
LENGTH: 444  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-382-248-34

Query Match 33.7%; Score 783; DB 12; Length 444;  
Best Local Similarity 38.8%; Pred. No. 2,2e-58;  
Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;

QY 1 ANSFEELRHSSLEPCEIEIDPEFAKEIFQVNDTLAFSKSVODQCVLPLEHCA 60  
DB 39 ANAFLEELRPSGLERCKEKEQCSFEARELIFKDAERTKLFMISYSDQDQ-----AS 90  
QY 61 SLCCGHTCIDGIGSFCDCRSWGGRFCQ-REVSFLNCSLDNGGCTHYCLEVGMRR-C 118  
DB 91 SPCQNGSSCKDQLOSTYICFLPAFGRNCETHDDQLCNENGGCGQYCSDHGTGKSC 150  
QY 119 SCAPGYKLGDDLQCHPAVFPQGRPMKMEKRSLSKRTDEDEQDVDRLLDGKMTTR 178  
DB 151 RHEGYSILADGVSCPTVEYPCGK-IPLEKRNA-----SKQSRIVGKVCCK 199  
QY 179 GSPFWQVLLDSKKKLAGAVLIHPSWLTFAHQMDESK---KLVLRYDRLRMKEKE 235  
DB 200 GECPMQVLLVNGAQL-CGGLTINTIVWSAHCFCFKIMRNLIYVGHDSHDGDE 258  
QY 236 LDDIREVFNHNSKSTNDIALHLAOPATLSQTIYVICLPDSGIAEREINQAGET 295  
DB 259 QSRVAQVITISYVPEGTINHDIALRLHQPVVLTJHVPLCLPERFISRTIAFV-RFS 317  
QY 296 LVTGNGYSSSEKAKRNTFVLANFKIPVPHNEGSEVM-----SNWSENNLCAGILG 350  
DB 318 LVSGWQGLIDGATV-----LEIMVIANVPRMLTQDCLQSRKVGDSPIETIYFCAGYS 372  
QY 351 DRDACEGDSGPMWASFEHGTWFLVLSWGEGGGLHHYVYTVSRYLDWIHGIRDK 410  
DB 373 GSKDSCKGDSGGPHATIRGTWILGIVSWGQCATVGFYTRVSYIEWLQKLMSE 432  
QY 411 EAP 413  
DB 433 PRP 435

RESULT 26  
US-10-411-026-8  
Sequence 8, Application US/10411026  
Publication No. US20040063911A1  
GENERAL INFORMATION:  
APPLICANT: Neose Technologies, Inc.  
APPLICANT: Zopf, David  
APPLICANT: Bayer, Robert  
APPLICANT: Hakes, David  
APPLICANT: Chen, Xi  
TITLE OF INVENTION: PROTEIN REMODELING METHODS AND PEPTIDES PRODUCED BY THE  
FILE REFERENCE: 040853-01-5053  
CURRENT APPLICATION NUMBER: US/10/411,026  
PRIOR FILING DATE: 2003-04-09  
PRIOR APPLICATION NUMBER: US 60/328,523  
PRIOR FILING DATE: 2001-10-10  
PRIOR APPLICATION NUMBER: US 60/344,692  
PRIOR FILING DATE: 2001-10-19  
PRIOR APPLICATION NUMBER: US 60/387,292  
PRIOR FILING DATE: 2002-06-07  
PRIOR APPLICATION NUMBER: US 60/391,777  
PRIOR FILING DATE: 2002-06-25  
PRIOR APPLICATION NUMBER: US 60/396,594  
PRIOR FILING DATE: 2002-07-17  
PRIOR APPLICATION NUMBER: US 60/404,249  
PRIOR FILING DATE: 2002-08-16  
PRIOR APPLICATION NUMBER: US 60/407,527  
PRIOR FILING DATE: 2002-08-28  
NUMBER OF SEQ ID NOS: 75  
SOFTWARE: PatentIn version 3.2  
SEQ ID NO 8  
LENGTH: 444  
TYPE: PRT  
ORGANISM: Homo sapiens

US-10-411-026-8

Query Match	33.7%;	Score 783;	DB 12;	Length 444;
Best Local Similarity	38.8%;	Pred. No. 2.2e-58;		
Matches 164;	Conservative	76;	Mismatches 147;	Indels 36;
				Gaps 10

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QY 1 ANSLTEILHSLRECEIEICDPFEAKEIFONVDDTLAFMSKHVDDQCLVLEPHPCA 60
Db 39 ANNFLERAPSLRECKEQQCSFEAREIFKDAERTKLFWISYSGDQ-----AS 90

QY 61 SLCCGHTCITCIGSFSCDCRSGMEGRFCQ-REVSATLNCSDNGCTHLCLENGMR-C 118
Db 91 SPONAGGSCXKLOLASYCFLCPAFEGRNCETHDDILCVNENGCEQYCSHTKTRSC 150

QY 119 SCAPYKLCDDILQCHAVAFPCGRPYRMWKEKRSILKXDDEDEDQVBPRLIDCKTRR 178
Db 151 RCHBGISLADVSCITTYAYPOGK-IYLEKNA-----SKPGKRTVGGKCPK 199

QY 179 GDSFQWVLLDSKKKLKCGAVLIHPSWVLTAAHOMDESK--KLVYLBGYDLREWEKME 235
Db 200 GEGPQWVLLVNVAGQL-CGGTILNTIWTWVSAACFOKIKNMNRLIAYLEHDLSHPHODE 258

QY 236 LDDIDKEVNVHNYSKSTTNDILALHQAOTLSQTYPICLDPSGLAREHNAOGET 295
Db 259 QSRRAVQVILPSTYPTGTHDILALRHOPVYLTHVPELCPERTFSRTIAFV-RFS 317

QY 296 LVYMGVHSSRREKAKNRTFVNLFIKLPVPHNECSEVM-----SNWVSNNLQAGILG 350
Db 318 LVYSOQGLDRLKAT-----LELMVLYNPRMLTMOQDLQOSRNVGDSNIEIEMFCAQSD 372

QY 351 DRDQACGDSGGGPWYASFHQTFVLGVLSWEGCGGLNHYGYTTKSRVYLDWIHGRDK 410
Db 373 GSKDSCKGDSGGPFAHTYGRSTWYLTNGISWOGCAYGHHFGVYTRVQSYEWLQRTAKRSE 432

QY 411 EAP 413
Db 433 PRP 435

```

RESULT 27  
 US-10-410-962-8  
 Sequence 8, Application US/10410962  
 Publication No. US20040077836A1  
 GENERAL INFORMATION:  
 APPLICANT: Neose Technologies, Inc.  
 APPLICANT: Dejees, Shawn  
 APPLICANT: Zopf, David  
 APPLICANT: Bayer, Robert  
 APPLICANT: Hakes, David  
 APPLICANT: Chen, Xi  
 APPLICANT: Rowe, Caryn  
 TITLE OF INVENTION: GRANULOCYTE COLONY STIMULATING FACTOR: REMODELING AND  
 TITLE OF INVENTION: GLYCOCONFIGURATION OF G-CSF  
 FILE REFERENCE: 040853-01-5054  
 CURRENT FILING DATE: US/10/410, 962  
 CURRENT FILING DATE: 2003-04-09  
 PRIOR APPLICATION NUMBER: US 60/328,523  
 PRIOR FILING DATE: 2001-10-10  
 PRIOR APPLICATION NUMBER: US 60/344,692  
 PRIOR FILING DATE: 2001-10-19  
 PRIOR APPLICATION NUMBER: US 60/387,292  
 PRIOR FILING DATE: 2002-06-07  
 PRIOR APPLICATION NUMBER: US 60/391,777  
 PRIOR FILING DATE: 2002-06-25  
 PRIOR APPLICATION NUMBER: US 60/396,594  
 PRIOR FILING DATE: 2002-07-17  
 PRIOR APPLICATION NUMBER: US 60/404,249  
 PRIOR FILING DATE: 2002-08-16  
 PRIOR APPLICATION NUMBER: US 60/407,527  
 PRIOR FILING DATE: 2002-08-28  
 NUMBER OF SEQ ID NOS: 75  
 SOFTWARE: PatentIn version 3.2  
 SEQ ID NO 8

```

; LENGTH: 444
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-410-962-8

```

Query Match 33.7%; Score 783; DB 16; Length 444;  
 Best Local Similarity 38.8%; Pred. No. 2.2e-58;  
 Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;

```

QY 1 ANSFLEJHSHSLRECEIEICDEEKAKEI.FONVDYDTLAFMSKHWVGGDCVLELHPCA 60
Db 39 ANNFLEJHPSGLSTERECKEQQCSFEBAKEI.FKDAERTXLFWISYSDGQC-----AS 90
QY 61 SLCCGHGTICDIGISGSCDCRSQWGEAFQO.REVSFLNGSLSDIGGCTH.CLEBYGNMR.C 118
Db 91 SPQNGSGSKCQLOLSYICFCLEPAEGNCCNTHNDQDOLL.CVNEGSGCEQYCSDHGTGRSC 150
QY 119 SCAPGYKGDLDLLOCHPAKFPQCRPMKREKKSSH.LKDTEDQEOQVDPRLIDGKTRR 178
Db 151 RCHBGISLADGVSCYTYEYEPQCK.IPILEKNA-----SKPGKRIYGGKCYCP 199
QY 179 GDSFWQVYLLDSKKQKACAVLI.HBSWYLTAAHCWDESK--KLVLREGEYDLRMEKWE 235
Db 200 GECPMQVLLLVNGAQ.LCGGTLINTI.VWVSAACFDKIKMNRNLI.VLGEHLSHENHGE 258
QY 226 LDDLDKEVYVHNRSKSTDNNDIALTLHAPATLSQITP.ICPDSGLARELINAQOET 295
Db 259 QSRRAVOIIPETVPGETNHDIALRLHOPVYLLDHWVPLCLPRTBTEBKTLAFV.RE 317
QY 286 LYTWGWAHSHSEBEKAKENRTFVLANFIKIPVPHNECSEVM-----SNWVSENNLCAGIIG 350
Db 318 LVYSQWQQLDRGARH-----LELWLVANVRPLMNOQDOLLQSKRYQDPSNITEYMFCAYS 372
QY 351 DRDACEGDSGGGPMVAS.FHGTVPFLVGLVNSGBCCGILNNYVYTKYSRLIDIHCHIRDK 410
Db 373 GSKDCKSGGSGGPHATRYGTWYLLTGLVSGQGCATVGHFGFYTVRSOYIETWLOKMRSE 432
QY 411 EAP 413
Db 433 FRP 435

```

RESULT 28  
US-10-411-049-8  
Sequence 8, Application US//10411049  
Publication No. US20040082026A1  
GENERAL INFORMATION:  
APPLICANT: Neose Technologies, Inc.  
APPLICANT: Defrees, Shawn  
APPLICANT: Zopf, David  
APPLICANT: Bayer, Robert  
APPLICANT: Hakes, David  
APPLICANT: Chen, Xi  
APPLICANT: Bove, Caryn  
TITLE OF INVENTION: INTERFERON ALPHA: REMODELING AND GLYCOCONJUGATION OF INTERFERON  
TITLE OF INVENTION: ALPHA  
FILE REFERENCE: 040853-01-5055  
CURRENT APPLICATION NUMBER: US 10/411,049  
CURRENT FILING DATE: 2003-04-09  
PRIOR APPLICATION NUMBER: US 60/328,523  
PRIOR FILING DATE: 2001-10-10  
PRIOR APPLICATION NUMBER: US 60/344,692  
PRIOR FILING DATE: 2001-10-19  
PRIOR APPLICATION NUMBER: US 60/387,292  
PRIOR FILING DATE: 2002-06-07  
PRIOR APPLICATION NUMBER: US 60/391,777  
PRIOR FILING DATE: 2002-06-25  
PRIOR APPLICATION NUMBER: US 60/396,594  
PRIOR FILING DATE: 2002-07-17  
PRIOR APPLICATION NUMBER: US 60/404,249  
PRIOR FILING DATE: 2002-08-16  
PRIOR APPLICATION NUMBER: US 60/407,527  
PRIOR FILING DATE: 2002-08-28

NUMBER OF SEQ ID NOS: 75  
 SOFTWARE: PatentIn version 3.2  
 SEQ ID NO 8  
 LENGTH: 444  
 TYPE: PRT  
 ORGANISM: Homo sapiens  
 US-10-411-049-8

Query Match 33.7%; Score 783; DB 16; Length 444;  
 Best Local Similarity 38.8%; Pred. No. 2,2e-58;  
 Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;

QY 1 ANSFLEIRHSLSRECEIEICDPEFAKEIFQVNDTLAFMSKAVDQCLVPLEHPCA 60  
 DB 39 ANAFLEIRPSLERCKEBCQCFEARELFKDAERTKLFWISYSDQC-----AS 90  
 QY 61 SLCCGHTCIDIGISFSCDCRSWGEFRFQ-REVSFLNCSLDNGCTHYCLEEVGMR-C 118  
 DB 91 SPQNGGCKDQLOSYICFLPAFEGNCEHMDOLICVNEGCGCYGSDHTGTKSC 150  
 QY 119 SCAPGYKLGDDLLQCHPAKFCGSPMKRMEKRSILKRDTEDEQDVDRLLDGMTR 178  
 DB 151 RCHBGYSLLADGVSCTPVEYPCGK-IPLEKRNA-----SKPGRIYGVGKVCER 199  
 QY 179 GDSPMQVLLDSKKKLACGAVLIHPSWVLTAAHOMESK---KLIVRAGEYDLRMEKME 235  
 DB 200 GECPMQVLLVNGAQL-CGGLINTIIVWSAHCDFKIKMKNMLIAVIGHDLSEHDGE 258  
 QY 236 LDIDKEVFNPNYSKSTTDNDIALHLAOPATLSQTVIPICLPDSGLARELNOAGET 295  
 DB 259 QSRRAQVLIISTYVPGTTHDIALRLHQPVVLTIDHVPLCLPRTFSERTIAFV-RFS 317  
 QY 296 LVTGNGYSSREKAKNRFTVNFKIPVVPNHECEVW-----SNVSENNLCCGILG 350  
 DB 318 LVSGMQLIDRGATA-----LEMLAVNPRMLTQDCLQSRKVGDSNITIEYFCAGYSD 372  
 QY 351 DRDACEGDSGPMVASFHGTWFLVGLVSWGCGGLHNYGYTYKSYRLDMIGHIRDK 410  
 DB 373 GSKDSCKDGSQGFPAHTRIGTWLTGIYSWGCGATVGHGVTYQYIEMLOKMRSE 432  
 QY 411 EAP 413  
 DB 433 PRP 435

## RESULT 29

US-10-263-205B-3  
 Sequence 3, Application US/10263205B  
 Publication No. US20040087498A1  
 GENERAL INFORMATION:  
 APPLICANT: BERKNER, Kathleen L.  
 APPLICANT: PETERSEN, Lars  
 APPLICANT: HART, Charles E.  
 APPLICANT: HEDNER, Ulla  
 APPLICANT: BRUGENGAARD, Claus  
 TITLE OF INVENTION: MODIFIED FACTOR VII  
 FILE REFERENCE: 13952N-8-5-1  
 CURRENT APPLICATION NUMBER: US/10/263,205B  
 CURRENT FILING DATE: 2002-10-01  
 PRIOR APPLICATION NUMBER: 08/464,029  
 PRIOR FILING DATE: 1995-06-05  
 PRIOR APPLICATION NUMBER: 08/327,690  
 PRIOR FILING DATE: 1994-10-24  
 PRIOR APPLICATION NUMBER: PCT/US94/05779  
 PRIOR FILING DATE: 1994-05-23  
 PRIOR APPLICATION NUMBER: 08/065,725  
 PRIOR FILING DATE: 1993-05-21  
 PRIOR APPLICATION NUMBER: PCT/US92/01636  
 PRIOR FILING DATE: 1991-02-28  
 PRIOR APPLICATION NUMBER: 07/662,920  
 PRIOR FILING DATE: 1991-02-28  
 NUMBER OF SEQ ID NOS: 5  
 SOFTWARE: PatentIn version 3.2

SEQ ID NO 3  
 LENGTH: 444  
 TYPE: PRT  
 ORGANISM: Homo sapiens  
 US-10-263-205B-3

Query Match 33.7%; Score 783; DB 16; Length 444;  
 Best Local Similarity 38.8%; Pred. No. 2,2e-58;  
 Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;

QY 1 ANSFLEIRHSLSRECEIEICDPEFAKEIFQVNDTLAFMSKAVDQCLVPLEHPCA 60  
 DB 39 ANAFLEIRPSLERCKEBCQCFEARELFKDAERTKLFWISYSDQC-----AS 90  
 QY 61 SLCCGHTCIDIGISFSCDCRSWGEFRFQ-REVSFLNCSLDNGCTHYCLEEVGMR-C 118  
 DB 91 SPQNGGCKDQLOSYICFLPAFEGNCEHMDOLICVNEGCGCYGSDHTGTKSC 150  
 QY 119 SCAPGYKLGDDLLQCHPAKFCGSPMKRMEKRSILKRDTEDEQDVDRLLDGMTR 178  
 DB 151 RCHBGYSLLADGVSCTPVEYPCGK-IPLEKRNA-----SKPGRIYGVGKVCER 199  
 QY 179 GDSPMQVLLDSKKKLACGAVLIHPSWVLTAAHOMESK---KLIVRAGEYDLRMEKME 235  
 DB 200 GECPMQVLLVNGAQL-CGGLINTIIVWSAHCDFKIKMKNMLIAVIGHDLSEHDGE 258  
 QY 236 LDIDKEVFNPNYSKSTTDNDIALHLAOPATLSQTVIPICLPDSGLARELNOAGET 295  
 DB 259 QSRRAQVLIISTYVPGTTHDIALRLHQPVVLTIDHVPLCLPRTFSERTIAFV-RFS 317  
 QY 296 LVTGNGYSSREKAKNRFTVNFKIPVVPNHECEVW-----SNVSENNLCCGILG 350  
 DB 318 LVSGMQLIDRGATA-----LEMLAVNPRMLTQDCLQSRKVGDSNITIEYFCAGYSD 372  
 QY 351 DRDACEGDSGPMVASFHGTWFLVGLVSWGCGGLHNYGYTYKSYRLDMIGHIRDK 410  
 DB 373 GSKDSCKDGSQGFPAHTRIGTWLTGIYSWGCGATVGHGVTYQYIEMLOKMRSE 432  
 QY 411 EAP 413  
 DB 433 PRP 435

## RESULT 30

US-10-017-122-2  
 Sequence 2, Application US/10017122  
 Publication No. US20030087244A1  
 GENERAL INFORMATION:  
 APPLICANT: McCarthy, Jeanette  
 TITLE OF INVENTION: DIAGNOSIS AND TREATMENT OF VASCULAR DISEASE  
 FILE REFERENCE: WMI-007  
 CURRENT APPLICATION NUMBER: US/10/017,122  
 CURRENT FILING DATE: 2001-12-14  
 PRIOR APPLICATION NUMBER: 60/327,487  
 PRIOR FILING DATE: 2001-10-09  
 NUMBER OF SEQ ID NOS: 4  
 SOFTWARE: PatentIn Ver. 2.0  
 SEQ ID NO 2  
 LENGTH: 466  
 TYPE: PRT  
 ORGANISM: Homo sapiens  
 US-10-017-122-2

Query Match 33.7%; Score 783; DB 14; Length 466;  
 Best Local Similarity 38.8%; Pred. No. 2,3e-58;  
 Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;

QY 1 ANSFLEIRHSLSRECEIEICDPEFAKEIFQVNDTLAFMSKAVDQCLVPLEHPCA 60  
 DB 61 ANAFLEIRPSLERCKEBCQCFEARELFKDAERTKLFWISYSDQC-----AS 112  
 QY 61 SLCCGHTCIDIGISFSCDCRSWGEFRFQ-REVSFLNCSLDNGCTHYCLEEVGMR-C 118



```

Db 113 SPQNGGSCXQDQSYICFLPAFEGNCEHDKDQLLCVNENGCQYCSDHTRYKSC 172
Qy 119 SCAPYKGDLLQCHPAVKEPCGRPMKMEKXSHLKXDTEDQDJDVDPRLIDGMTR 178
Db 173 RCHGYSLLADGVSCTPVEYPCGK-IPILKRNA-----SKQGTIVGAVCPK 221
Qy 179 GDSPMQVLLDSSKKLACGAVLHPGMYLLTAHOMDESK---KLIVLGEYDLRMEKME 235
Db 222 GECPMQVLLVNGAQL-CGGTLINTIIVVSAHCFDKIKMKNLILAVLGEHDLSEHGD 280
Qy 236 LDIDKEVFNHNSKSTTNDIALHLAOPATISQITVPCLPDSGLAEELNQAQET 295
Db 281 QSRVAVVILPSTYVPGTTHNDIALRLHQPVVLDHVPLCLPRTFSEKTLAFV-RFS 339
Qy 296 LYTMGYHSSREKEXKRNRFVNFILKIPVPHNECEVM-----SNMVSNNLCAGILG 350
Db 340 LVSGWQLLDLRGATL-----LELMTLVNPRIMTQCLQOSRKXGDSPNITETMFCAGYSD 394
Qy 351 DRDACEGDSGGPMVASFHGTWFLVGVISWBGCGLLANNGVYTKVSRYLDMHGHIRDK 410
Db 395 GSKDSCKGDSGGPHATHRGWYLIGIVSWGCGATVGHFVYTRVSQYIEMLOKLMRSE 454
Qy 411 EAP 413
Db 455 PRP 457

```

## RESULT 31

```

US-10-375-741-14
; Sequence 14, Application US/10375741
; Publication No. US20030232753A1
; GENERAL INFORMATION:
; APPLICANT: Thorpe, Philip B
; APPLICANT: King, Steven W
; APPLICANT: Gao, Bohang
; TITLE OF INVENTION: TISSUE FACTOR METHODS AND COMPOSITIONS FOR COAGULATION AND TUMOR
; FILE REFERENCE: 4001.001939
; CURRENT APPLICATION NUMBER: US/10/375,741
; PRIOR FILING DATE: 2003-02-27
; PRIOR APPLICATION NUMBER: 09/573,835
; PRIOR FILING DATE: 2000-05-18
; PRIOR APPLICATION NUMBER: 6,156,321
; PRIOR FILING DATE: 1998-01-20
; PRIOR APPLICATION NUMBER: 60/042,427
; PRIOR FILING DATE: 1997-03-27
; PRIOR APPLICATION NUMBER: 60/036,205
; PRIOR FILING DATE: 1997-01-27
; PRIOR APPLICATION NUMBER: 60/035,920
; PRIOR FILING DATE: 1997-01-22
; NUMBER OF SEQ ID NOS: 27
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 14
; LENGTH: 466
; TYPE: PRP
; ORGANISM: Homo sapiens
US-10-375-741-14

```

Query Match 33.7%; Score 783; DB 15; Length 466;  
 Best Local Similarity 38.8%; Pred. No. 2.3e-58;  
 Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;

```

Qy 1 ANSPLEELRHSSLERECIEICDPEEAKEIFQVNDOTLAFWSKHYDQCLVPLHPCA 60
Db 61 ANAFLEELRBSLERECIEICDPEEAKEIFQVNDOTLAFWSKHYDQCLVPLHPCA 112
Qy 61 SLCCGHTCIDIGSSSCDCRSWGGRFCQ-REVSFLNCSLDNGGCTHYCLEEYVGR-C 118
Db 113 SPQNGGSCXQDQSYICFLPAFEGNCEHDKDQLLCVNENGCQYCSDHTRYKSC 172
Qy 119 SCAPYKGDLLQCHPAVKEPCGRPMKMEKXSHLKXDTEDQDJDVDPRLIDGMTR 178
Db 173 RCHGYSLLADGVSCTPVEYPCGK-IPILKRNA-----SKQGTIVGAVCPK 221

```

```

Qy 179 GDSPMQVLLDSSKKLACGAVLHPGMYLLTAHOMDESK---KLIVLGEYDLRMEKME 235
Db 222 GECPMQVLLVNGAQL-CGGTLINTIIVVSAHCFDKIKMKNLILAVLGEHDLSEHGD 280
Qy 236 LDIDKEVFNHNSKSTTNDIALHLAOPATISQITVPCLPDSGLAEELNQAQET 295
Db 281 QSRVAVVILPSTYVPGTTHNDIALRLHQPVVLDHVPLCLPRTFSEKTLAFV-RFS 339
Qy 296 LYTMGYHSSREKEXKRNRFVNFILKIPVPHNECEVM-----SNMVSNNLCAGILG 350
Db 340 LVSGWQLLDLRGATL-----LELMTLVNPRIMTQCLQOSRKXGDSPNITETMFCAGYSD 394
Qy 351 DRDACEGDSGGPMVASFHGTWFLVGVISWBGCGLLANNGVYTKVSRYLDMHGHIRDK 410
Db 395 GSKDSCKGDSGGPHATHRGWYLIGIVSWGCGATVGHFVYTRVSQYIEMLOKLMRSE 454
Qy 411 EAP 413
Db 455 PRP 457

```

## RESULT 32

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US-10-406-031-8
; Sequence 8, Application US/10406031
; Publication No. US20040043017A1
; GENERAL INFORMATION:
; APPLICANT: Masci, Paul Pantaleone
; APPLICANT: De Jersey, John
; APPLICANT: Lavin, Martin
; TITLE OF INVENTION: PROTHROMBIN ACTIVATING PROTEIN
; FILE REFERENCE: 15685-002001
; CURRENT APPLICATION NUMBER: US/10/406,031
; PRIOR FILING DATE: 2003-04-02
; PRIOR APPLICATION NUMBER: AU 2003901033
; PRIOR FILING DATE: 2003-03-07
; PRIOR APPLICATION NUMBER: AU PS1483
; PRIOR FILING DATE: 2002-04-03
; NUMBER OF SEQ ID NOS: 51
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 8
; LENGTH: 467
; TYPE: PRP
; ORGANISM: Oxyuramus microlepidotus
US-10-406-031-8

```

Query Match 33.7%; Score 783; DB 12; Length 467;  
 Best Local Similarity 37.7%; Pred. No. 2.3e-58;  
 Matches 163; Conservative 77; Mismatches 154; Indels 38; Gaps 9;

```

Qy 1 ANSPLEELRHSSLERECIEICDPEEAKEIFQVNDOTLAFWSKHYDQCLVPLHPCA 60
Db 41 ANSLEEFRRSGNLERECIEICDPEEAKEIFQVNDOTLAFWSKHYDQCLVPLHPCA 94
Qy 61 SLCCGHTCIDIGSSSCDCRSWGGRFCQ-REVSFLNCSLDNGGCTHYCLEEYVGR-C 120
Db 95 --CHRGTCCKGISTYCTCLFGEYGNKCR-VIYSCVNDGNKGMHCKPQYNDIQSC 151
Qy 121 APGYKGDLLQCHPAVKEPCGRPMKMEKXSHLKXDTEDQDJDVDPRLIDGMTR 171
Db 152 ABEYLLGEGHSCVAGSNGSCGNIKTKNKRKASLPDFVQSNATLTKSDNPSPIRIV 211
Qy 172 DGMTRGDSFWQVLLDSSKKLACGAVLHPGMYLLTAHOMDESKLVLGEYDLRMEK 231
Db 212 NGMDCKLGECPWQAVLDEKEGVFGGTLISPIYVLLAHCINQTEKISVVGIDKSY 271
Qy 232 EKXELLDIDKEVFNHNSKSTTNDIALHLAOPATISQITVPCLPDSGLAEELNQAQ 278
Db 272 ETEHL-LSDYDKIYVHKKFVPPKGYKFEKFDLVSDYDIALIIMQKTIQSENVVAC 330
Qy 279 PDSGLAEELNQAQETLVTMGYSSEKEXKRNRFVNFILKIPVPHNECEYVGR-C 338
Db 331 PTADFANQVLMQ-DFGIISGFG--RIFEKGPKN--TLKVLKVPYVDRTMVSSESP 384

```

RESULT 34  
US-10-406-031-11

```

RESULT 35
US-10-360-101-225
; Sequence 225, Application US/10360101
; Publication No. US2004009550A1
; GENERAL INFORMATION:
; APPLICANT: Moll, Gert N.
; APPLICANT: Leenhouts, Cornelis J.
; TITLE OF INVENTION: Export and modification of (poly)peptide in the lantibiotic way
; FILE REFERENCE: 2183-5673
; CURRENT APPLICATION NUMBER: US/10/360,101
; CURRENT FILING DATE: 2003-02-07
; PRIOR APPLICATION NUMBER: EP 02077060.8
; PRIOR FILING DATE: 2002-05-24
; NUMBER OF SEQ ID NOS: 309

```

```

; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 225
; LENGTH: 405
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: sequence of eptacog alpha (factor VII)
US-10-360-101-225

```

```

Query Match          33.5%; Score 779; DB 15; Length 405;
Best Local Similarity 38.6%; Pred. No. 4,2e-58;
Matches 163; Conservative 76; Mismatches 147; Indels 36; Gaps 10;

```

```

QY 2 NSFLFELRHSSLEKCEIEEDCFEAKETIFONVDTLAFMSKHVGDQCLVPLEHPCA 61
DB 1 NAFLELRPGSLERCEKEBOCSFEARELIFKDAERTKLFMTISDQDQ-----AS 52
QY 62 LCCGHTCIDIGSFSCDCRSWGRRFCQ-REVSFLNCSLDNGGCTHYCLEEVMRR-CS 119
DB 53 PCNGGSCDQLOQSYTCFLPAFERNCEHMDQDLQVNEGCEQYCSHDTGTRSCR 112
QY 120 CAGYKLGDDLLQCHPAVKPCGRPMKREKRSKSLKRTDEQDVDPRLIDGKTRRG 179
DB 113 CHEGYSLADGVSCPTVEYPCGK-IPILEKRNA-----SKPQGRITVGKCPGK 161
QY 180 DSPWQVVLDSKKKLACGAVLIPSWVLTAACWDESK--KLVYLGEDYLRMEKWEI 236
DB 162 ECPWQVLLVNGAQI-CGGTLINTIVVSAACDPKIKMRNLIATLGHDSHDQD 220
QY 237 DLDKEVFVHPNYSKSTNDIALHLAQPATLSQITVPICLPDSGLARELNOAGETL 296
DB 221 SRVAVQYIIPSTYVGTTHNDIALRLHQPVVLTVDHVPCLPDRFESRTIAFV-RFSL 279
QY 297 VTGWSHSSREKEAKRNTFYVNFIKIPVFNHNSSEM-----SNMSEMMCAGLG 351
DB 280 VSGWGLDGRGTA-----LELWLVNPPRLMTQDCLQSKRVDSNNTIETMFCAGYS 334
QY 352 QDACEGDSGPMVAFSGHTWFLVGLVSMGSCGLLHNYGYTKVSRYLMDHGHIRDK 411
DB 335 SKDCKDGGSGPHAHYHGYTLGLVSMGCGCATVGHFGYTRVSGYIEMQLKMSSE 394
QY 412 AP 413
DB 395 RP 396

```

```

RESULT 36
US-10-406-031-2
; Sequence 2, Application US/10406031
; Publication No. US20040043017A1
; GENERAL INFORMATION:
; APPLICANT: Masci, Paul Pantaleone
; APPLICANT: De Jersey, John
; APPLICANT: Lavin, Martin
; TITLE OF INVENTION: PROTHROMBIN ACTIVATING PROTEIN
; FILE REFERENCE: 15685-002001
; CURRENT APPLICATION NUMBER: US/10/406,031
; CURRENT FILING DATE: 2003-04-02
; PRIOR APPLICATION NUMBER: AU 2003901033
; PRIOR FILING DATE: 2003-03-07
; PRIOR APPLICATION NUMBER: AU PS1483
; PRIOR FILING DATE: 2002-04-03
; NUMBER OF SEQ ID NOS: 51
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 467
; TYPE: PRT
; ORGANISM: Pseudonaja textilis
US-10-406-031-2

```

```

Query Match          33.4%; Score 777; DB 12; Length 467;
Best Local Similarity 37.5%; Pred. No. 7.5e-58;
Matches 162; Conservative 77; Mismatches 155; Indels 38; Gaps 9;

```

```

QY 1 ANSFLFELRHSSLEKCEIEEDCFEAKETIFONVDTLAFMSKHVGDQCLVPLEHPCA 60
DB 41 ANSLVEEFKSGNTERCEKEBCEKEAREVEDEKETTNNVYVVDGQCSSNP----- 94
QY 61 SLCCGHTCIDIGSFSCDCRSWGRRFCQ-REVSFLNCSLDNGGCTHYCLEEVMRRCS 120
DB 95 --CHYRGICDQIGGISTCTGLSGYEGKNCER-VLYKSCRYDNGNCHWPKSVQNDIQSC 151
QY 121 APGYKLGDDLLQCHPAVKPCGRPMKREKRSKSLKRTDEQDVDPRLIDGKTRRG 171
DB 152 AEGYTLDEDSHSCVAGNFSGGRNITKRNKRASLPDFVQSHNATLLKSDNPSDRIIV 211
QY 172 DGKTRRGDSPWQVVLDSKKKLACGAVLIPSWVLTAACWDESKKLVYLGEDYLRME 231
DB 212 NMDCKIAGECPQALAVDDKKGVCSTLISPIYVLTAAHINETETISVVGVEIDRRA 271
QY 232 EKWEIJDIDKEVFVHPNYSKSTNDIALHLAQPATLSQITVPICLPDSGLARELNO 278
DB 272 ETGFL-LSVDKVVVHKFVPPKKSQEFYEKEFDVSYDIALIOMKTPIOFSENVPACL 330
QY 279 PDSGLARELNOAGETLVLTGWSHSSREKEAKRNTFYVNFIKIPVFNHNSSEM 338
DB 331 PPAQFANQVLMKQ-DRGIVSGFGGIFERGENSK-----TLKVLVPYVDRHCOMLSN 384
QY 339 VSENNLCAGLIGDQDACEGDSGPMVAFSGHTWFLVGLVSMGSCGLLHNYGYTKVSR 398
DB 385 IIPMFCAGYDILPQACQSDGSGPHATVARTDHTLTGIVSMGCGCARGRGIVTKLSK 444
QY 399 YLMDHGHIRDK 410
DB 445 FLPWKIRMRQK 456

```

```

RESULT 37
US-10-406-031-17
; Sequence 17, Application US/10406031
; Publication No. US20040043017A1
; GENERAL INFORMATION:
; APPLICANT: Masci, Paul Pantaleone
; APPLICANT: De Jersey, John
; APPLICANT: Lavin, Martin
; TITLE OF INVENTION: PROTHROMBIN ACTIVATING PROTEIN
; FILE REFERENCE: 15685-002001
; CURRENT APPLICATION NUMBER: US/10/406,031
; CURRENT FILING DATE: 2003-04-02
; PRIOR APPLICATION NUMBER: AU 2003901033
; PRIOR FILING DATE: 2003-03-07
; PRIOR APPLICATION NUMBER: AU PS1483
; PRIOR FILING DATE: 2002-04-03
; NUMBER OF SEQ ID NOS: 51
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 17
; LENGTH: 455
; TYPE: PRT
; ORGANISM: Tropidochelis carinatus
US-10-406-031-17

```

```

Query Match          33.4%; Score 775.5; DB 12; Length 455;
Best Local Similarity 37.0%; Pred. No. 9.7e-58;
Matches 157; Conservative 79; Mismatches 151; Indels 37; Gaps 8;

```

```

QY 1 ANSFLFELRHSSLEKCEIEEDCFEAKETIFONVDTLAFMSKHVGDQCLVPLEHPCA 60
DB 41 ANSLVEEFKSGNTERCEKEBCEKEAREVEDEKETTNNVYVVDGQCSSNP----- 94
QY 61 SLCCGHTCIDIGSFSCDCRSWGRRFCQ-REVSFLNCSLDNGGCTHYCLEEVMRRCS 120
DB 95 --CHYRGICDQIGGISTCTGLSGYEGKNCER-VLYKSCRYDNGNCHWPKSVQNDIQSC 151
QY 121 APGYKLGDDLLQCHPAVKPCGRPMKREKRSKSLKRTDEQDVDPRLIDGKTRRG 171
DB 152 AEGYTLDEDSHSCVAGNFSGGRNITKRNKRASLPDFVQSHNATLLKSDNPSDRIIV 211

```

[illegible]

```

Query Match      32.3%; Score 749.5; DB 12; Length 437;
Best Local Similarity 35.6%; Pred. No. 1.5e-55;
Matches 150; Conservative 82; Mismatches 154; Indels 35; Gaps 8

QY      1  ANSPFEARRSSLEPCEELCDPEFAKXTQVNDOTLAFMSKHYDQGLVLELHPCA 60
      |||||:::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db      41  ANSPFXMKKKGHLXRCXKXATCSXXARXVYXDDTKNFKMKRYCDQGLTSP----- 94
      |||||:::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|

QY      61  SLCGGHGTCLDGGSPDCDRCGMEGRFCOREVSLFNGSLDNGGCTHYCLEEYGNRSC 120

```

Db 95 --CQNGKCKKXGLEYCTTCLBFGKNCLEFTRKL-CSLDNGDDQFCHEONSVWSC 151  
QY 121 APGYKGLDILLQCHPAVFCGPRPKMEKKRSHLKRDEDOEDVDPRLLIDSKMTRGD 180  
Db 152 ARGYTLADNGKACIPFGPYCGK--QTLERKR-----RIVGQCKXGE 194  
QY 181 SPQVVLDSKKKLACGAVLIHPSVLTAAHCDKSKLLVLSGYLRKMKWELDDI 240  
Db 195 CPWQALLINENEGFCGTLSEFYILTAHCLVQARRKRVGGRNTEOEGEAVHEV 254  
QY 241 KEVFPVNVSKSTTDNDIALHQAOPATLSQTIYPCLDPSGLARELNOAQGT-LVYG 299  
Db 255 EVYIKNNFTKEITDPDIAVLKPTIFPMVAPACLPBRMASTL--MTQGTGVS 312  
QY 300 WGYHSREKAKRRTFVNLFIKIPVPHNCEFWNSNMVSENMLCAGILGRODACEGD 359  
Db 313 FGRTHEKRGSTR-----LKMLEVPYVDRNSCKLSSFFITQNMFCAGYDTKQDCAQGD 367  
QY 360 SGGPMVASFHGTWELVGLVSGGCGLLHNTGYTKRSYLDWIGHIRDEKAPQ-KSWA 418  
Db 368 SGGPHYTRKDTYFTGIVSGWEGCARKGKGYITVAVLAKWIDRSKTRGLPKAKSHA 427  
QY 419 P 419  
Db 428 P 428

RESULT 40  
US-10-712-332-1

GENERAL INFORMATION:

APPLICANT: Wolf, David L.

Sinha, Uma

TITLE OF INVENTION: Agents Affecting Thrombosis and Hemostasis

NUMBER OF SEQUENCES: 11

CORRESPONDENCE ADDRESS:

ADDRESSEE: Morgan, Lewis &amp; Bockius LLP

STREET: 1111 Pennsylvania Avenue, NW

CITY: Washington

STATE: DC

COUNTRY: USA

ZIP: 20004

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PatentIn Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/10/712,332

FILING DATE: 13-Nov-2003

PRIORITY APPLICATION DATA:

APPLICATION NUMBER: US/09/671,346

FILING DATE: 27-Sep-2000

APPLICATION NUMBER: US/07/578,646

FILING DATE: 1990-09-04

APPLICATION NUMBER: US/07/808,329

FILING DATE: 1991-12-16

APPLICATION NUMBER: US/08/249,777

FILING DATE: 1994-05-26

APPLICATION NUMBER: US/08/268,003

FILING DATE: 1994-06-29

APPLICATION NUMBER: US/08/469,301

FILING DATE: 1995-06-06

APPLICATION NUMBER: US/09/016,403

FILING DATE: 1998-01-30

APPLICATION NUMBER: US/09/362,207

FILING DATE: 1999-07-28

ATTORNEY/AGENT INFORMATION:

NAME: Michael S. Tuscan, Ph.D.

REGISTRATION NUMBER: 43,210

REFERENCE/DOCKET NUMBER: 44481-5002-15-US

TELECOMMUNICATION INFORMATION:

TELEPHONE: (202) 739-3000

TELEFAX: (202) 739-3001  
FEATURE:  
NAME/KEY: Modified-site  
LOCATION: 6, 7, 14, 16, 19, 20, 25, 26, 29, 32, 39  
OTHER INFORMATION: /note= 'Xaa = gamma-carboxy glutamic acid.'  
SEQUENCE DESCRIPTION: SEQ ID NO: 1  
US-10-712-332-1

Query Match 32.1%; Score 746; DB 12; Length 488;  
Best Local Similarity 33.5%; Pred. No. 3,5e-55;  
Matches 153; Conservative 86; Mismatches 162; Indels 56; Gaps 9;

QY 1 ANSFLERLHSSLRBCEIETOPFEAKETIFONVDDTLAFWSRVHVDGCLVPLEHPCA 60  
Db 41 ANSFLKMKKGLHAKKXCKXKTCYXAKRVFDSKTMXKMKXKDGDCESP----- 94  
QY 61 SLCCGHTCIDIGSFSDCRSGMEGRFCQREVSFLNCSLDNGCTHYCLEFVWRRCSC 120  
Db 95 --CQNGKCKKXGLEYCTTCLBFGKNCLEFTRKL-CSLDNGDDQFCHEONSVWSC 151  
QY 121 APGYKGLDILLQCHPAVFCGPRPKMEKKRSHLKRDEDOEDVDPRLLIDSKMTRGD 167  
Db 152 ARGYTLADNGKACIPFGPYCGK--QTLERKRVSVAQTSSEAPDSITMKPYDAADLD 209  
QY 168 P-----RLIDSKMTRGDSFWQVVLDSKKKLACGAVLIHPS 204  
Db 210 PTENPRLDPRNQTQPERGDNULRIVGQCKQCECPWQALLINENEGFCGTLSEF 269  
QY 205 WYLTAAHCDKSKLLVLSGYLRKMKWELDDIKEVFPVNVSKSTTDNDIALHQA 264  
Db 270 YLTAAHCLVQARRKRVGGRNTEOEGEAVHEVAVIHNRFTEYTDIAVLK 329  
QY 265 QPATLSQTIYPCLDPSGLARELNOAQGT-LVYGMGYSRSREKAKRRTFVNLFIKI 323  
Db 330 TPIFRMNVAPACLPBRMASTL--MTQGTGVSFGRTHEKRGSTR-----LKMLEV 382  
QY 324 PVPVPHNCEFWNSNMVSENMLCAGILGRODACEGSGGPMVASFHGTWELVGLVSGEG 383  
Db 383 PVDNRNSCKLSSFFITQNMFCAGYDTKQDCAQGDGSGPHVTRFKOTYFVGIWSWEG 442  
QY 384 CGLHNTGYTKRSYLDWIGHIRDEKAPQ-KSWAP 419  
Db 443 CARKGKGYITVAVLAKWIDRSKTRGLPKAKSHA 479

RESULT 41  
US-10-712-332-3

GENERAL INFORMATION:

APPLICANT: Wolf, David L.

Sinha, Uma

TITLE OF INVENTION: Agents Affecting Thrombosis and Hemostasis

NUMBER OF SEQUENCES: 11

CORRESPONDENCE ADDRESS:

ADDRESSEE: Morgan, Lewis &amp; Bockius LLP

STREET: 1111 Pennsylvania Avenue, NW

CITY: Washington

STATE: DC

COUNTRY: USA

ZIP: 20004

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PatentIn Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/10/712,332

FILING DATE: 13-Nov-2003

PRIORITY APPLICATION DATA:

APPLICATION NUMBER: US/09/671,346

FILING DATE: 27-Sep-2000

APPLICATION NUMBER: US/07/578,646

FILING DATE: 1990-09-04

Query Match	31.9%;	Score 741.5;	DB 12;	Length 437;
Best Local Similarity	35.2%;	Pred. No. 7.5e-55;		
Matches 148;	Conservative 84;	Mismatches 154;	Indels 35;	Gaps 8;

RESULT 42  
US-10-038-854-94

```

? Sequence 94, Application US/10038854
? Publication No. US20040022781A1
? GENERAL INFORMATION:
? APPLICANT: Syntex, Kimberly A
? APPLICANT: Li, Li
? APPLICANT: Wolenc, Adam R
? APPLICANT: Vernet, Corine

```

Query Match	31.8%;	Score 740;	DB 16;	Length 461;
Best Local Similarity	35.6%;	Pred. No. 1.1e-54;		
Matches 151;	Conservative 71;	Mismatches 156;	Indels 46;	Gaps 10

```

QY      5 LEEIRHSSIERCTBELCPREAKEITFONDDPLAHSWAGDQCVLPLBPCASHCC 64
Dlb     52 LEEVQONIERCMECKCSFEERAREFENRERTTEFKWYDQGCNSNP-----CL 103
QY      65 GHGTCTDGGSPSCRCRSGWEGFCQREVSHTLSDNGCTHYCLEEWGR-RCSAPG 123
Dlb     104 NGGSCKDDINSIECCPFEGEGKNCEDLYT---CNKNRGEGCRKSNADNKVCSCTEG 160
QY      124 YKLDDLLQCHPAVYFPGCPMKREKRSLSLR-----DDEDEDVD----- 167
Dlb     161 YRLAENGKSCAPAVFPQGRVSVQSTSLTEAEVFPDVVYNSTEAETLLNITOSTOS 220
QY      168 ----PRLIDKTRGSDPQWVLLDSKKLAGANVLIHPSVWLTAAHGWDESKILVRL 223

```

```

Db 221 FNDFTVVGSDAPKQGFPMQV-INGKVDAPCGGSIYVNEKIVTAAACVDVTGKTTVA 279
QY 224 GEYDLRRMEKELDLDIKEVFNHNSKST--DNDIALHLAOPATLSQTIPLCLPDS 281
Db 280 GEHNIEETETEQKRVIRIIPHNVAALNKYNDIALLEDEPLVANSYTPICIDAK 339
QY 282 GLAERLNOAGETLVYWG--YHSREKAKRRTVYANFIKIVFNHNSKST 339
Db 340 EYTNIFLKEG--SGVSGMGRVPHKGRS-----ALVQLYRLVDRATCLRSKFTI 390
QY 340 SENMLCAGILGDRDACEGDSGGPMVASFHGTWFLVGLVSNBEGGILHNHYGVYTKVSR 399
Db 391 YNNMFCAGFHBSGRDSCGDSGGPHTVEGTSFPLGTIISWEECAKMGKYGITKVSRY 450
QY 400 LDWI 403
Db 451 VNMV 454

RESULT 43
US-10-038-854-96
; Sequence 96, Application US/10038854
; Publication No. US20040022781A1
; GENERAL INFORMATION:
; APPLICANT: Spytek, Kimberly A
; APPLICANT: Li, Li
; APPLICANT: Wolenc, Adam R
; APPLICANT: Vernet, Corine
; APPLICANT: Eisen, Andrew J
; APPLICANT: Liu, Xiaohong
; APPLICANT: Malpankar, Uziel M
; APPLICANT: Shinkets, Richard A
; APPLICANT: Tchernyev, Velizar
; APPLICANT: Spaderna, Steven K
; APPLICANT: Gorman, Linda
; APPLICANT: Kekuda, Ramesh
; APPLICANT: Patturajan, Meera
; APPLICANT: Gusev, Vladimir Y
; APPLICANT: Gangoli, Esha A
; APPLICANT: Guo, Xiaojia S
; APPLICANT: Shenoy, Suresh G
; APPLICANT: Rastelli, Luca
; APPLICANT: Casman, Stacie J
; APPLICANT: Boldog, Ferenc
; APPLICANT: Burgess, Catherine E
; APPLICANT: Edinger, Shlomit R
; APPLICANT: Ellerman, Karen
; APPLICANT: Gunther, Erik
; APPLICANT: Smithson, Glenda
; APPLICANT: Miller, Isabelle
; APPLICANT: MacDougall, John R
; TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same
; FILE REFERENCE: 21402-230
; CURRENT APPLICATION NUMBER: US/10/038,854
; PRIOR FILING DATE: 2003-01-22
; PRIOR APPLICATION NUMBER: 60/258,928
; PRIOR FILING DATE: 2000-12-29
; PRIOR APPLICATION NUMBER: 60/259,415
; PRIOR FILING DATE: 2001-01-02
; PRIOR APPLICATION NUMBER: 60/259,785
; PRIOR FILING DATE: 2001-01-04
; PRIOR APPLICATION NUMBER: 60/269,814
; PRIOR FILING DATE: 2001-02-20
; PRIOR APPLICATION NUMBER: 60/279,832
; PRIOR FILING DATE: 2001-03-29
; PRIOR APPLICATION NUMBER: 60/279,833
; PRIOR FILING DATE: 2001-03-29
; PRIOR APPLICATION NUMBER: 60/279,863
; PRIOR FILING DATE: 2001-03-29
; PRIOR APPLICATION NUMBER: 60/283,889
; PRIOR FILING DATE: 2001-04-13
; PRIOR APPLICATION NUMBER: 60/284,447

```

```

; PRIOR FILING DATE: 2001-04-18
; PRIOR APPLICATION NUMBER: 60/286,683
; PRIOR FILING DATE: 2001-04-25
; Remaining Prior Application data removed - See File Wrapper or PAM.
; NUMBER OF SEQ ID NOS: 411
; SOFTWARE: Patentin Ver. 2.1
; SEQ ID NO 96
; LENGTH: 456
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-038-854-96

Query Match 31.8%; Score 739; DB 16; Length 456;
Best Local Similarity 35.4%; Pred No. 1.3e-54;
Matches 150; Conservative 73; Mismatches 155; Indels 46; Gaps 10;

QY 5 LEEHRSSLEBCEICIEIDFEEAKEIPQVNDTTAFWSKHVDGQCLVPLHPGASLCC 64
Db 47 LEEFVQGNLRECEMEKCSFEAEVEFVENTERTTFMRYVDGDCESNP-----CL 98
QY 65 GHGTCIDIGTSFSCDORSGMGRFCOREYSPLNCSLDNGCCTHYCLEVGR-RGSCAPG 123
Db 99 NGSGCKDIDINSYECWCPFGFGKNCGLDVT---CNIRKGTBOFCNKSADNKVVCSTEG 155
QY 124 YKLGDLLQCHPAVKPCGRPFMKMEKRSHLK-----DTEQBDQVD----- 167
Db 156 YKLAENQKCEPAPVPPCGRVSVQSKLTPRAVFPDQVNVSTAEFTLLDNTQSTOS 215
QY 168 ----PRLIDKMTRRGDSFPMQVYLLDSKKKLACAVLIHPSWVITAHGMSKGLVRL 223
Db 216 FNDFTVVGSDAPKQGFPMQV-INGKVDAPCGGSIYVNEKIVTAAACVDVTGKTTVA 274
QY 224 GEYDLRRMEKELDLDIKEVFNHNSKST--DNDIALHLAOPATLSQTIPLCLPDS 281
Db 275 GEHNIEETETEQKRVIRIIPHNVAALNKYNDIALLEDEPLVANSYTPICIDAK 334
QY 282 GLAERLNOAGETLVYWG--YHSREKAKRRTVYANFIKIVFNHNSKST 339
Db 335 EYTNIFLKEG--SGVSGMGRVPHKGRS-----ALVQLYRLVDRATCLRSKFTI 385
QY 340 SENMLCAGILGDRDACEGDSGGPMVASFHGTWFLVGLVSNBEGGILHNHYGVYTKVSR 399
Db 386 YNNMFCAGLHGARDSCGDSGGPHTVEGTSFPLGTIISWEECAKMGKYGITKVSRY 445
QY 400 LDWI 403
Db 446 VNMV 449

RESULT 44
US-10-038-854-95
; Sequence 95, Application US/10038854
; Publication No. US20040022781A1
; GENERAL INFORMATION:
; APPLICANT: Spytek, Kimberly A
; APPLICANT: Li, Li
; APPLICANT: Wolenc, Adam R
; APPLICANT: Vernet, Corine
; APPLICANT: Eisen, Andrew J
; APPLICANT: Liu, Xiaohong
; APPLICANT: Malpankar, Uziel M
; APPLICANT: Shinkets, Richard A
; APPLICANT: Tchernyev, Velizar
; APPLICANT: Spaderna, Steven K
; APPLICANT: Gorman, Linda
; APPLICANT: Kekuda, Ramesh
; APPLICANT: Patturajan, Meera
; APPLICANT: Gusev, Vladimir Y
; APPLICANT: Gangoli, Esha A
; APPLICANT: Guo, Xiaojia S
; APPLICANT: Shenoy, Suresh G
; APPLICANT: Rastelli, Luca
; APPLICANT: Casman, Stacie J

```

```

1  APPLICANT: Boldog, Ferenc
2  APPLICANT: Burgess, Catherine E
3  APPLICANT: Edinger, Shlomit R
4  APPLICANT: Ellerman, Karen
5  APPLICANT: Gunther, Erik
6  APPLICANT: Smithson, Glenda
7  APPLICANT: Millet, Isabelle
8  APPLICANT: MacDougall, John R
9  TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same
10 FILE REFERENCE: 21402-230
11
12 CURRENT APPLICATION NUMBER: US/10/039,954
13
14 CURRENT FILING DATE: 2003-01-22
15
16 PRIOR APPLICATION NUMBER: 60/258,928
17
18 PRIOR FILING DATE: 2000-12-29
19
20 PRIOR APPLICATION NUMBER: 60/259,415
21
22 PRIOR FILING DATE: 2001-01-02
23
24 PRIOR APPLICATION NUMBER: 60/255,785
25
26 PRIOR FILING DATE: 2001-01-04
27
28 PRIOR APPLICATION NUMBER: 60/269,814
29
30 PRIOR FILING DATE: 2001-02-20
31
32 PRIOR APPLICATION NUMBER: 60/279,832
33
34 PRIOR FILING DATE: 2001-03-29
35
36 PRIOR APPLICATION NUMBER: 60/279,833
37
38 PRIOR FILING DATE: 2001-03-29
39
40 PRIOR APPLICATION NUMBER: 60/279,863
41
42 PRIOR FILING DATE: 2001-03-29
43
44 PRIOR APPLICATION NUMBER: 60/283,889
45
46 PRIOR FILING DATE: 2001-04-13
47
48 PRIOR APPLICATION NUMBER: 60/284,447
49
50 PRIOR FILING DATE: 2001-04-18
51
52 PRIOR APPLICATION NUMBER: 60/286,663
53
54 PRIOR FILING DATE: 2001-04-25
55
56 Remaining Prior Application data removed - See File Wrapper or PALM
57 NUMBER OF SEQ ID NOS: 411
58
59 SOFTWARE: PatentIn Ver. 2.1
60
61 SEQ ID NO 95
62
63 LENGTH: 456
64
65 TYPE: prt
66
67 ORGANISM: Homo sapiens
68
69 US-10-038-854-95

```

Query Match	31.7%:	Score 736:	DB 16:	Length 456:
Best Local Similarity	35.4%:	Pred. No. 2.3e-54:		
Matches	150:	Conservative	72:	Mismatches 156: Indels 46: Gaps 10:

  

QY	5	LEELRHSSLSRECEIEELCOFEAEKEIFONVDITLAFWSKHYVGDCLVPLEHPOASLCC	64
DB	47	LEEVQGNLERCEKEEKCSPFEERAEVEFENERTETTERFWKYVDGQOCESNP-----CL	98
QY	65	GHCICIDIGSPSCDCSSGMEGRFCOREVSPHMSCIDNGCGTHYCLEEVGMK-RGSCAPG	123
DB	99	NGSCXCDJDNTNSJECMCSPFEGEGKCELDV---CNKIKRCEQFCNKSADNKVYCSCTEG	155
QY	124	YKLDGDLLOCHYAVFCGRPMRMEKISLHK-----DDEQEDQVD-----	167
DB	156	YRLAEVNGXCEAPVAFPCGRVSVSQSLTFAELVPPVDVYNSTAEFTLIDNTQSHQS	215
QY	168	----PRIDGKMTTRBGSSPMQVLLDSKKKLACAGVLTIPSMTLTAHCMDSKSLVRL	223
DB	216	FNDFTRVYGEAKPKGPFQMVV-INGKYDAFCGSGISVNEKMTVAHACHETGVKITVA	274
QY	224	GEYDLRMWEKWLDDITREVFVFNPSKSTT--DNIDALHILAOPATLSQTYPICLPDS	281
DB	275	GEHNIETETHTQKKNVRIIRPHNYNAIKNHMDILALDELDVINSVYTPCLCIXDK	334
QY	282	GLAERELNAGGETLVLTGWS--YHSSREKEAKRNETFVNLKIPVFNHECEYSWMSNV	339
DB	335	EYTNILPKFG--SGVYSWGRVPHKRS-----ALVYQYRLVPDRAATCLIRSTKETI	385
QY	340	SENNLCAGILGRDQACGSGSGGPMWASHGHGTWELVYVSWGEGGLHLYGVYKVSRY	399
DB	386	YNNWFCAHPHEGGRDSCGSGGSHATVEVGSITGLIISWEECANMKGYITLYKVSRY	445

```

OY          400 IDMT 403
           ::||
Db          446 VNM1 449

RESULT 45
US-09-884-901-3
; Sequence 3, Application US/09884901
; Patent No. US2002076798A1
; GENERAL INFORMATION:
; APPLICANT: Miao, Carol
; APPLICANT: Kay, Mark
; TITLE OF INVENTION: Liver-Specific Gene Expression Cassettes, and Methods of Use
; FILE REFERENCE: UOEW-1-17296
; CURRENT APPLICATION NUMBER: US/09/884,901
; PRIOR FILING DATE: 2001-06-18
; PRIOR APPLICATION NUMBER: US 60/212,902
; PRIOR FILING DATE: 2000-06-20
; NUMBER OF SEQ ID NOS: 18
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO: 3
; LENGTH: 461
; TYPE: prt
; ORGANISM: Homo sapien
US-09-884-901-3

```

```

Query Match 31.7% Score 736; DB 9; Length 461;
Best Local Similarity 35.4%; Pred. No. 2, 4e-54;
Matches 150; Conservative 72; Mismatches 156; Indels 46; Gaps 10;

QY      5 LELIRHSLIRECEIEICDFEAKETIPONTVDTLAFWSAHYDQCVLPLRHPASLCC 64
      52 LEEFVQGNLEFRCMEKCKSFEERAEVFENTERETTERFMKQYVDGDCESNP-----CL 103
QY      65 GHGTCTDIGASPCDCRSSGMEGRFCOREVSLNCSLDNGCTHYCLAEVGR-RGSCAPG 123
      104 NGGSCKDDINSYECWCPRPGFEGNCELDVT---CNIRKRCGQPCRNKSNADNKVCSCTEG 160
QY      124 YKLDLDDLLCHAVAFPCGRPMKREKRSKSHLK-----DTEDEQDQV----- 167
      161 YRLAENQKCEBAVAFPCGRVSVSQSTKLTLAEAVFPVDVYNGSTEATETLLDITQSTQS 220
QY      168 ----PRLIDGKXKTRGDSFMQVYLLDSKKLACAAVLHPSVYLAAHCHMDESKLLVRL 223
      221 FNDETFRVGEBAKQGFPMQVY-INGKDAFCCGGSIVEMKIVLAACVETGKITYVA 279
QY      224 GEVLYRWEKWELEDDIKEFVHAPNYSKST--DNIDIALHLIAPATLSQITVPLGPS 281
      280 GEHNIIEHTHTQKKNVIRIIPHHNNMAINKXNDIALLEDEPLVINSYVPIGIDAK 339
QY      282 GLAERELINQGETLVYGMG--YHSREKEAKRRKRTVNFKIPVYPHNECEGWSNV 339
      340 EYVNIPLFKFG--SGYVSGMGVPHKRS-----ALVLYQYRLVDYRATCLRSTKPTI 390
QY      340 SPNNKACGLIGRQDACEGDSGPMVASFHGTWFLVGLVSMGSGGLLHNYGYTVTSRY 399
      391 YNNFACGFHEHGRDSCQDSGGPHTEVEGISTLTGIIISMDEBAMKKGKGIYTVSSY 450
Db      391 YNNFACGFHEHGRDSCQDSGGPHTEVEGISTLTGIIISMDEBAMKKGKGIYTVSSY 450
QY      400 LDWI 403
      451 VNI 454
Db      451 VNI 454

RESULT 46
US-10-132-829-5
; Sequence 5, Application US/10132829
; Publication NO. US20030044982A1
; GENERAL INFORMATION:
; APPLICANT: Chien, Kenneth R
; APPLICANT: Hoshijima, Masahiko
; TITLE OF INVENTION: Method to treat hemophilia by hepatic gene transfer of Factor V
; TITLE OF INVENTION: with yeastle vector
; FILE REFERENCE: 6627-Pat170

```



```

1 CURRENT APPLICATION NUMBER: US/10/132,825
2
3 CURRENT FILING DATE: 2002-04-25
4
5 PRIOR APPLICATION NUMBER: 60/286,314
6
7 PRIOR FILING DATE: 2001-04-25
8
9 NUMBER OF SEQ ID NOS: 5
10
11 SOFTWARE: PatentIn version 3.1
12
13 SEQ ID NO 5
14
15 LENGTH: 461
16
17 TYPE: PRT
18
19 ORGANISM: Homo sapiens
20
21 US-10-132-825-5

```

Query Match	31.7%;	Score 736;	DB 14;	Length 461;
Best Local Similarity	35.4%;	Pred. No. 2.4e-54;		
Matches 150;	Conservative 72;	Mismatches 156;	Indels 46;	Gaps 10;

```

OY      5 LEEIRHSSRECEIEICDEFEAKETJQNVDDTLAEMSHKVNDQCLVLELHEPCASJCC 64
Dz      52 LEEIVGONLHERCMEBKCSFEBAFVETERTERTTEPMKOYVDGQCCSNF-----CL 103
OY      65 GHGTCTIDIGSFCDCSGMEGAFPCOREVYSTLSDINGCCTHCLBEGMR-RCSAPG 123
Dz      104 NGGSCXKDINSYECFCFEGEGKNCLELYT---CNIKNGRCQFCKMSADNKKVCSYEG 160
OY      124 YKLDDDLQCHAVYFCFGRPMKRMKKRSILXR-----DTEDEDDVD----- 167
Dz      161 YRLAENKQSCBAVYFPCQGVYSVQSLSKLTAEIVPPEPDYDYNSTAEFTLLDNTIQSQS 220
OY      168 ----PRLDGKMTRRGDSPMQVYLLDSKKKLACGVALHPMSVILTAACHMDESKLLVRL 223
Dz      221 FNDETRVYGGEDAKPGQGPQWYV-LNGKVDAFCCGSIIVNEKMTVTAACHVETGVXLTVVA 279
OY      222 GEYDLRMEKMEWELDDIEYFVYVNPYSKSTI--DNDAIHLHAQATLSQTVPCLDSDS 281
Dz      280 GENHIEESTETQCKNVLRIIPHNNNAINKYHNDILALLEIDEPVLANSYVPPCLIDCK 339
OY      282 GHAERELNQAQOETLYTGMG--YHSSREKEAKNRFTVINFYKIVVPHNECSSEWMSNV 339
Dz      340 EYTNIFLAKG--SGVYSOMGRVPHKRS-----ALVQYLRVLYDRATCLARSTKFTI 396
OY      340 SENMLCAGIIGRQDACEGDSGGPMTASFGHTWFLVGLVYSKEBGGCLLHNYGYTKVSRV 399
Dz      391 YNNMFCAGFHEEGRDCQSGSGSPHYTEVEGTSFLGLISWGBCKAMKXGYTYTVSRY 450
OY      400 LDMV 403
Dz      451 VNMV 454

```

```

/ RESULT 47
/ US-10-234-406-6
/ Sequence 6, Application US/10234406
/ Publication NO. US20030109478A1
/ GENERAL INFORMATION:
/ APPLICANT: FEWEL, Jason G.
/ APPLICANT: MACLAUGHLIN, Fiona
/ APPLICANT: SMITH, Louis C.
/ APPLICANT: NICOL, Francois
/ APPLICANT: ROLAND, Alain
/ TITLE OF INVENTION: NOCLEDIC ACID FORMULATIONS FOR GENE DELIVERY AND METHODS OF USE
/ FILE REFERENCE: 54964.8303.US01
/ CURRENT APPLICATION NUMBER: US/10/234,406
/ CURRENT FILING DATE: 2002-09-03
/ PRIOR APPLICATION NUMBER: US 60/187,236
/ PRIOR FILING DATE: 2000-03-03
/ PRIOR APPLICATION NUMBER: US 60/261,751
/ PRIOR FILING DATE: 2001-01-16
/ PRIOR APPLICATION NUMBER: PCT/US01/06953
/ PRIOR FILING DATE: 2001-03-02
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: Patentin version 3.1
/ SEQ ID NO 6
/ LENGTH: 461

```

```

; TYPE: PRT
; ORGANISM: Artificial Sequence
FEATURE:
; OTHER INFORMATION: Expression plasmid pEN0945 having natural sequence encoding human
; OTHER INFORMATION: coagulation factor IX
; US-10-234-406-6

```

Query Match	31.7%;	Score 736;	DB 14;	Length 461;
Best Local Similarity	35.4%;	Pred. No. 2.4e-54;		
Matches 150;	Conservative 72;	Mismatches 156;	Indels 46;	Gaps 10;

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QY 5 LELRRSSIFRECEIEECDFEAEKEIFONADDTLAFMSKHVDGQCVLPYHNCASLCC 64
Db 52 LEEFVQNLRECEMEKSCFEARAEVFENERTETFEWQYVDGQCESNP-----CL 103
QY 65 GHGCTCIDGSGFSCDRSSMBGRFCQREVSFLNCSLDNGGCTHYCLEEYGR-RCSARG 123
Db 104 NGGSCXCDIDINSYECWCPFEFGKXCELDVT--CNIKNRCEQFCNSADMKVYCSCTEG 160
QY 124 YKJGDLLQCPAYKPCRPWKXMEKRSHLKR-----DTEQEDQVDV----- 167
Db 161 YRLAENQSCBPAYVPCRSRVSUSQTSKLTBAETVPPOVDYANSTAEITLIDNTOSTOS 220
QY 168 ----PRLDGKMTRRGDSFWOYVLLDSKKKXACGAVLHPSPWLTAAHCSBESKKLLVRL 223
Db 221 FNDFTVWGSDADKQGFPMQVY--LNSKVDAFGSGSIVNEKMIYVTAHCVETGKXITVVA 279
QY 224 GEYDLARMMEKWEIIDLKXVFNHRYMSKST--DNDIALHLAOPATLSQTLVPICTPDS 281
Db 280 GENHIEETHEETORRNVIRIIPHNNYMAALNKYNHIDLLEDPVLINSYTPICIADK 339
QY 282 GLAERETNOAQGETLVYTGNG--YHSSEREKAKNRTFVLNFIKLPVVPNEHCEBMSNMV 339
Db 340 EYNIITLKGK--SGYVSQMGVRFHKGS-----ALVLOYLRLPYLDATCLASTFTLI 390
QY 340 SENMLCAGILDRDCACEBDSGGPMWVSFHGTWFLVGLVSGEGCGLLNHYGYTTKTSRY 359
Db 391 YNNMFCAGFHEGRCDSQGBSGFHVTEVEGTSFTLGLIISWEGECAMKRGYIYTKVSRY 450
QY 400 LDWT 403
Db 451 YNNI 454

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/ RESULT 48
/ US-10-234-406-8
/ Sequence 8, Application US/10234406
/ Publication No. US20030109478A1
/ GENERAL INFORMATION:
/ APPLICANT: FEMEL, Jason G.
/ APPLICANT: MACLAUGHLIN, Fiona
/ APPLICANT: SMITH, Louis C.
/ APPLICANT: NICOL, Francois
/ APPLICANT: ROLLAND, Alain
/ TITLE OF INVENTION: NUCLEIC ACID FORMULATIONS FOR GENE DELIVERY AND METHODS OF USE
/ FILE REFERENCE: 54964.8303.US01
/ CURRENT APPLICATION NUMBER: US/10/234,406
/ CURRENT FILING DATE: 2002-09-03
/ PRIOR APPLICATION NUMBER: US 60/187,236
/ PRIOR FILING DATE: 2000-03-03
/ PRIOR APPLICATION NUMBER: US 60/261,751
/ PRIOR FILING DATE: 2001-01-16
/ PRIOR APPLICATION NUMBER: PCT/US01/06953
/ PRIOR FILING DATE: 2001-03-02
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: PatentIn version 3.1
/ SEQ ID NO 8
/ LENGTH: 461
/ TYPE: PRT
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Expression plasmid pEN1645 having codon optimized sequence encoded
/ OTHER INFORMATION: ng for human coagulation factor IX (786) ... (2171).
/

```

US-10-234-406-8

## Query Match

31.7%; Score 736; DB 14; Length 461;  
 Best Local Similarity 35.4%; Pred. No. 2,4e-54;  
 Matches 150; Conservative 72; Mismatches 156; Indels 46; Gaps 10;

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QY 5 LEEHSHSLERECEIEICDPEAKEIFQVNDJTLAFWSKHYDQCLVLEHPCASLCC 64
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 52 LEEFVQGNLERECMEKESFEEDAREVENTERTTEFWQYVDQCESNP-----CL 103
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 65 GAGTCIDIGISFSCDRCGMEGRFCOREVSLNCSLDNGGCTHYCLIEVGM-RSCAPG 123
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 104 NGGSKDDINSEWCWPFEGKNCGLDVT---CNKNGRCGCGCKSNANKVCSCTEG 160
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 124 YKLGDLLQCHPAVPCGPRPKMEKKRSHLR-----DTEDEQDQD----- 167
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 161 YRLANQKSCFPVAPFPCGRVSVSQTSLTRAEAVPPDVYVNSTEATLTDITQSTQS 220
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 168 ----PRLIDGKMTFRGDSFQVVLDDSKKLAAGVLIHPSVLIATAHCDSEKULVRL 223
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 221 FNDFTRVVGGSDAKPGQFPWQV-LNGKVAFGSGSIVNEKVIYAAHCVEIGVKITVVA 279
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 224 GEYDLRWEKEKELDLIDKEVFPVNYKSTT--DNDIALHLAQPATLSQTIPICLPDS 281
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 280 GEHNIETEHEHQKRVIRIIPHNNYNAINKYNDIALLEDEPLVINSYVTPICLADK 339
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 282 GLAERLNAQGETLVYGMG--YHSSREKAKRRTFVNFKIPVPHNECEVMSNV 339
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 340 EYTNIFLKFG--SGYVSGMRVPHKGRS-----ALVQYLRVPLVDRATCLRSTKFTI 390
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 340 SENMLCAGILDRDACEGDSGPPVASFHGTWFLVGLVSMGEGGLIHHYGYTKVSR 399
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 391 YNNMFCAGFHEGGRDSCQSDSGSPHYTEGSTFLTGIIISWCEBCKMKKGKGYITVSR 450
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 400 LDWI 403
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 451 VNMV 454
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:

RESULT 49
US-10-133-907-5
; Sequence 5, Application US/10133907
; Publication No. US20030195223A1
; GENERAL INFORMATION:
; APPLICANT: Chien, Kenneth R
; APPLICANT: Hoshijima, Masahiko
; TITLE OF INVENTION: Method to treat hemophilia by hepatic gene transfer of Factor VII
; FILE REFERENCE: 6627-P41170
; CURRENT APPLICATION NUMBER: US/10/133,907
; PRIOR FILING DATE: 2002-04-25
; PRIOR APPLICATION NUMBER: 60/286,314
; NUMBER OF SEQ ID NOS: 5
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 5
; LENGTH: 461
; TYPE: PRT
; ORGANISM: Homo sapiens
; US-10-133-907-5

Query Match      31.7%; Score 736; DB 14; Length 461;
Best Local Similarity 35.4%; Pred. No. 2,4e-54;
Matches 150; Conservative 72; Mismatches 156; Indels 46; Gaps 10;

```

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QY 124 YKLGDLLQCHPAVPCGPRPKMEKKRSHLR-----DTEDEQDQD----- 167
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 161 YRLANQKSCFPVAPFPCGRVSVSQTSLTRAEAVPPDVYVNSTEATLTDITQSTQS 220
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 168 ----PRLIDGKMTFRGDSFQVVLDDSKKLAAGVLIHPSVLIATAHCDSEKULVRL 223
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 221 FNDFTRVVGGSDAKPGQFPWQV-LNGKVAFGSGSIVNEKVIYAAHCVEIGVKITVVA 279
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 224 GEYDLRWEKEKELDLIDKEVFPVNYKSTT--DNDIALHLAQPATLSQTIPICLPDS 281
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 280 GEHNIETEHEHQKRVIRIIPHNNYNAINKYNDIALLEDEPLVINSYVTPICLADK 339
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 282 GLAERLNAQGETLVYGMG--YHSSREKAKRRTFVNFKIPVPHNECEVMSNV 339
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 340 EYTNIFLKFG--SGYVSGMRVPHKGRS-----ALVQYLRVPLVDRATCLRSTKFTI 390
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 340 SENMLCAGILDRDACEGDSGPPVASFHGTWFLVGLVSMGEGGLIHHYGYTKVSR 399
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 391 YNNMFCAGFHEGGRDSCQSDSGSPHYTEGSTFLTGIIISWCEBCKMKKGKGYITVSR 450
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 400 LDWI 403
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 451 VNMV 454
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:

```

## RESULT 50

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US-10-038-854-92
; Sequence 92, Application US/10038854
; Publication No. US20040022781A1
; GENERAL INFORMATION:
; APPLICANT: Spytek, Kimberly A
; APPLICANT: Li, Li
; APPLICANT: Wolenc, Adam R
; APPLICANT: Vernet, Corine
; APPLICANT: Eisen, Andrew J
; APPLICANT: Liu, Xiaohong
; APPLICANT: Malyankar, Uriel M
; APPLICANT: Shimkets, Richard A
; APPLICANT: Tchernen, Velizar
; APPLICANT: Spaderna, Steven K
; APPLICANT: Gorman, Linda
; APPLICANT: Kekuda, Ramesh
; APPLICANT: Paturajan, Meera
; APPLICANT: Gusev, Vladimir Y
; APPLICANT: Gangoli, Bsha A
; APPLICANT: Guo, Xiaojia S
; APPLICANT: Shenoy, Suresh G
; APPLICANT: Rastelli, Luca
; APPLICANT: Casman, Stacie J
; APPLICANT: Boldog, Ferenc
; APPLICANT: Burgess, Catherine B
; APPLICANT: Edinger, Shlomit R
; APPLICANT: Ellerman, Karen
; APPLICANT: Gunther, Erik
; APPLICANT: Smithson, Glenda
; APPLICANT: Millet, Isabelle
; APPLICANT: MacDougall, John R
; TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same
; FILE REFERENCE: 21402-230
; CURRENT APPLICATION NUMBER: US/10/038,854
; PRIOR FILING DATE: 2003-01-22
; PRIOR APPLICATION NUMBER: 60/258,928
; PRIOR FILING DATE: 2000-12-29
; PRIOR APPLICATION NUMBER: 60/259,415
; PRIOR FILING DATE: 2001-01-02
; PRIOR APPLICATION NUMBER: 60/259,785
; PRIOR FILING DATE: 2001-01-04
; PRIOR APPLICATION NUMBER: 60/269,814
; PRIOR FILING DATE: 2001-02-20
; PRIOR APPLICATION NUMBER: 60/279,832
; PRIOR FILING DATE: 2001-03-29
; PRIOR APPLICATION NUMBER: 60/279,833
; PRIOR FILING DATE: 2001-03-29

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; PRIOR APPLICATION NUMBER: 60/279,863
; PRIOR FILING DATE: 2001-03-29
; PRIOR APPLICATION NUMBER: 60/283,889
; PRIOR FILING DATE: 2001-04-13
; PRIOR APPLICATION NUMBER: 60/284,447
; PRIOR FILING DATE: 2001-04-18
; PRIOR APPLICATION NUMBER: 60/286,683
; PRIOR FILING DATE: 2001-04-25
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 411
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 92
; LENGTH: 461
; TYPE: PRT
; ORGANISM: Homo sapiens
; US-10-038-854-92

```

```

Query Match      31.7%; Score 736; DB 16; Length 461;
Best Local Similarity 35.4%; Pred. No. 2.4e-54;
Matches 150; Conservative 72; Mismatches 156; Indels 46; Gaps 10;

```

```

QY 5 LEEIRHSLRECEIEICDEFEAKEIFQNVDDTLAFWSKHVDGQCVLPLEHPCASLCC 64
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Db 52 LEEFVGUNLERCEMEKCSFEARFEVFENTERTEFEWKQYVDGQCESNP-----CL 103
QY 65 GHGTCTDIGSFSCDCRSGMEGRFCQREVSFLNCSLNDGCTHYCLEVGR-RGSCARG 123
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 104 NGSSCKDDINSYECPCFGEFGKCELDVT--CNIKRGCEQFCNSADNKVVCCTG 160
QY 124 YKLGDDLLQCHPAVFCGRPWMEKRSHLK-----DTEDEQDVT----- 167
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 161 YRLAENQSCERAVFPFCGRSVSQTSLTRAEAFPDVYNVSTAEITLIDNTOSTOS 220
QY 168 ----PRLIDGKTRRGDSPWQVLLDSKKKLAGAVLIHPSVLTAAHGMESKLLVRL 223
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 221 FNDFTRVVGEDAKRGQFPQVV-INGKVDAPCGGSIVNEKMTVTAHCVETGKIVVA 279
QY 224 GEYDLRMKEMKLDIDKEVFHNTSKST--DNDIALHLAOPATLSQITVPCIPDS 281
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 280 GEHNIEETEHEQKRVIRIIPHNNVAAINKYNDIALDELDEPLVINSYTPICIAK 339
QY 282 GLARELNOAGDETLVTGNG--YHSSREKAKRNTFVNFIKIPVPHNECEVMANV 339
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 340 EYTNIFLKFG--SGVYSGMGKRVFHKRS-----ALVLQYLRVPLVDRATCLSTKFTI 390
QY 340 SENMTCAGTIGDRQACBGDSGGMVASFHGTVPVLVGVSGCGILLNRYVTKRSY 339
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Db 391 YNNFCAGFHEGGRDSCGDSGPHVTEVGTSTFLGIISGEECAMKRGYGIYKVSRY 450
QY 400 LDMT 403
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Db 451 VVMT 454

```

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RESULT 51
US-10-038-854-93
; Sequence 93, Application US/10038854
; Publication No. US20040022781A1
; GENERAL INFORMATION:
; APPLICANT: Spytek, Kimberly A
; APPLICANT: Li, Li
; APPLICANT: Wolenc, Adam R
; APPLICANT: Vernet, Corine
; APPLICANT: Eissen, Andrew J
; APPLICANT: Liu, Xiaohong
; APPLICANT: Malyankar, Uriel M
; APPLICANT: Shinkets, Richard A
; APPLICANT: Tchernyev, Vellizar
; APPLICANT: Spaderina, Steven K
; APPLICANT: Gorman, Linda
; APPLICANT: Kekuda, Ramesh
; APPLICANT: Patcurajan, Meera
; APPLICANT: Gusev, Vladimir Y

```

```

; APPLICANT: Gangolli, Esha A
; APPLICANT: Guo, Xiaojia S
; APPLICANT: Shenoy, Suresh G
; APPLICANT: Rastelli, Luca
; APPLICANT: Caeman, Stacie J
; APPLICANT: Boldog, Ferenc
; APPLICANT: Burgess, Catherine E
; APPLICANT: Edinger, Shlomit R
; APPLICANT: Ellerman, Karen
; APPLICANT: Gunther, Erik
; APPLICANT: Smithson, Glenda
; APPLICANT: Millet, Isabelle
; APPLICANT: MacDougall, John R
; TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same
; FILE REFERENCE: 21402-230
; CURRENT FILING DATE: 2003-01-22
; PRIOR APPLICATION NUMBER: 60/258,928
; PRIOR FILING DATE: 2000-12-29
; PRIOR APPLICATION NUMBER: 60/259,415
; PRIOR FILING DATE: 2001-01-02
; PRIOR APPLICATION NUMBER: 60/259,785
; PRIOR FILING DATE: 2001-01-04
; PRIOR APPLICATION NUMBER: 60/269,814
; PRIOR FILING DATE: 2001-02-20
; PRIOR APPLICATION NUMBER: 60/279,832
; PRIOR FILING DATE: 2001-03-29
; PRIOR APPLICATION NUMBER: 60/279,833
; PRIOR FILING DATE: 2001-03-29
; PRIOR APPLICATION NUMBER: 60/279,863
; PRIOR FILING DATE: 2001-03-29
; PRIOR APPLICATION NUMBER: 60/283,889
; PRIOR FILING DATE: 2001-04-13
; PRIOR APPLICATION NUMBER: 60/284,447
; PRIOR FILING DATE: 2001-04-18
; PRIOR APPLICATION NUMBER: 60/286,683
; PRIOR FILING DATE: 2001-04-25
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 411
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 93
; LENGTH: 461
; TYPE: PRT
; ORGANISM: Homo sapiens
; US-10-038-854-93

```

```

Query Match      31.7%; Score 736; DB 16; Length 461;
Best Local Similarity 35.4%; Pred. No. 2.4e-54;
Matches 150; Conservative 72; Mismatches 156; Indels 46; Gaps 10;

```

```

QY 5 LEEIRHSLRECEIEICDEFEAKEIFQNVDDTLAFWSKHVDGQCVLPLEHPCASLCC 64
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 52 LEEFVGUNLERCEMEKCSFEARFEVFENTERTEFEWKQYVDGQCESNP-----CL 103
QY 65 GHGTCTDIGSFSCDCRSGMEGRFCQREVSFLNCSLNDGCTHYCLEVGR-RGSCARG 123
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 104 NGSSCKDDINSYECPCFGEFGKCELDVT--CNIKRGCEQFCNSADNKVVCCTG 160
QY 124 YKLGDDLLQCHPAVFCGRPWMEKRSHLK-----DTEDEQDVT----- 167
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 161 YRLAENQSCERAVFPFCGRSVSQTSLTRAEAFPDVYNVSTAEITLIDNTOSTOS 220
QY 168 ----PRLIDGKTRRGDSPWQVLLDSKKKLAGAVLIHPSVLTAAHGMESKLLVRL 223
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 221 FNDFTRVVGEDAKRGQFPQVV-INGKVDAPCGGSIVNEKMTVTAHCVETGKIVVA 279
QY 224 GEYDLRMKEMKLDIDKEVFHNTSKST--DNDIALHLAOPATLSQITVPCIPDS 281
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 280 GEHNIEETEHEQKRVIRIIPHNNVAAINKYNDIALDELDEPLVINSYTPICIAK 339
QY 282 GLARELNOAGDETLVTGNG--YHSSREKAKRNTFVNFIKIPVPHNECEVMANV 339
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 340 EYTNIFLKFG--SGVYSGMGKRVFHKRS-----ALVLQYLRVPLVDRATCLSTKFTI 390

```

```

Sequence 2 Application US/09118748A
Patent No. US20020031799A1
GENERAL INFORMATION:
APPLICANT: Stauffer, Darrel W.
APPLICANT: Chang, Jindi
TITLE OF INVENTION: Factor IX Antihemophilic Factor with Increased Clotting
TITLE OF INVENTION: Activity
FILE REFERENCE: 5470-183
CURRENT APPLICATION NUMBER: US/09/118,748A
CURRENT FILING DATE: 1998-07-17
EARLIER APPLICATION NUMBER: 60/053,571
EARLIER FILING DATE: 1997-07-21
NUMBER OF SEQ ID NOS: 2
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 2
LENGTH: 415
TYPE: PRN
ORGANISM: Homo sapiens
US-09-118-748-2

Query Match      31.6%; Score 735; DB 9; Length 415;
Best Local Similarity 35.4%; Pred. No.2,5e-54;
Matches 150; Conservative 72; Mismatches 156; Indels 46; Gaps 10.

QY      5 LEEIARSLERCELEECDFEAKETIQNDTTLAFKSKYVDGCVLPLRHFCASTCC 64
DB      6 LEEFVGNLEERCEKESCFEEAREVEFENTERTFMKQIVDDQCESNP-----CT 57
QY      65 GAGTCIDIGSFCSDRSQMEGRFCQREVSFLNCSLDNGGCTHYCLEYQWR-RCSCAPG 123
DB      58 NGSCSCDDINSYECWCPFPFESKCELDVT---CNIKNGRCGECNKSADNKVCSCTEG 114
QY      124 YKLGDDLLQCHPAVPCPCRPMPKMEKKKSHLKR-----DTEQEQVD----- 167
DB      115 YRLAEQKQSCPAVPPPCRCRVSVSQTSKLTFRATVFPDVIDVNSTAFETILLNTQSTQS 174
QY      168 ----PRLIDGQKTRGSEPMQVVLDSKKKLAAGVLIHPENVLTAAHQMSEKKLLVRL 223
DB      175 FNDFTVVGSGEDAKPGQFPQVY-LNKGVDAPCGSGYNEKQIVTAHCEVGVYLTVA 233
QY      224 GEYDLDREWEKELDLDIKEVFNPNYSKSTT--DNDIALHLAOPATLSQTTVPICLPDS 281
DB      224 GEHNIFETEHTEQKRVIRILIPHNVNAALNKTNHDLALLDEPVLNYSVTPPICADK 293
QY      282 GLAEKRLNQAQCEFLVYNGG--YHSREKAKRNRFTVLNITIKLPPVNEECSEVMSNV 339
DB      294 EYTNIFLKEG--SGYSQGWRYFHKGS-----ALVQIQLRPLVDARCTCLASTETI 344
QY      340 SENMLCAGILGRDPADESGSGPVVASFHGTFLVGLVSGEGCGILLHNYGVYTVSRY 399
DB      345 YNNMPCAGFHGEGDSCQGGSGGPHVEVGTSTFLGLISWGECAKRGYGIYTKVSRV 404
QY      400 LDMV 403
DB      405 VNMV 408

RESULT 54
US-09-782-587B-1
Sequence 1, Application US/09782587B
Publication No. US20030096338A1
GENERAL INFORMATION:
APPLICANT: PEDERSEN, ANDERS H.
APPLICANT: ANDERSON, KIM V.
APPLICANT: BORNAES, CLAU
APPLICANT: BORNAES, CLAU
TITLE OF INVENTION: FACTOR VII OR VIIA-LIKE MOLECULES
FILE REFERENCE: 31-001100US
CURRENT APPLICATION NUMBER: US/09/782,587B
CURRENT FILING DATE: 2002-03-26
PRIOR APPLICATION NUMBER: PA 2000 00218
PRIOR FILING DATE: 2000-02-11
PRIOR APPLICATION NUMBER: 60/184,036
PRIOR FILING DATE: 2000-02-22

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PRIOR APPLICATION NUMBER: 60/241,916  
PRIOR FILING DATE: 2000-10-18  
NUMBER OF SEQ ID NOS: 19  
SOFTWARE: PatentIn Ver. 2.1  
SEQ ID NO 1  
LENGTH: 406  
TYPE: PRT  
ORGANISM: Homo sapiens  
FEATURE:  
NAME/KEY: MOD\_RES  
LOCATION: (6)..(7)  
OTHER INFORMATION: Gamma carboxyglutamic acid or glutamic acid  
NAME/KEY: MOD\_RES  
LOCATION: (14)  
OTHER INFORMATION: Gamma carboxyglutamic acid or glutamic acid  
NAME/KEY: MOD\_RES  
LOCATION: (16)  
OTHER INFORMATION: Gamma carboxyglutamic acid or glutamic acid  
NAME/KEY: MOD\_RES  
LOCATION: (19)..(20)  
OTHER INFORMATION: Gamma carboxyglutamic acid or glutamic acid  
NAME/KEY: MOD\_RES  
LOCATION: (25)..(26)  
OTHER INFORMATION: Gamma carboxyglutamic acid or glutamic acid  
NAME/KEY: MOD\_RES  
LOCATION: (29)  
OTHER INFORMATION: Gamma carboxyglutamic acid or glutamic acid  
NAME/KEY: MOD\_RES  
LOCATION: (35)  
OTHER INFORMATION: Gamma carboxyglutamic acid or glutamic acid  
US-09-782-587B-1

Query Match 31.2%; Score 726; DB 10; Length 406;  
Best Local Similarity 36.6%; Pred. No. 1,4e-53;  
Matches 155; Conservative 75; Mismatches 157; Indels 36; Gaps 10;

QY 1 ANSFLELRHSSLEBCEIEICDFEBAKEIFQNVDTLAFWSKXNDGQCLVPLBHPCA 60  
DB 1 ANAFLLXLRGSLXKXCKXQCSFXAXKIFDXAKRTLFWISYSDGDC-----AS 52  
QY 61 SLCCGHTCIDIGSFSCDCSGMBGRFCQ-REVSFLNCSLDNGGCTHYCLBEVGMRC-C 118  
DB 53 SPCQNGSCCKDQLOSYTCFCPLPAFEGNCCETHKDQDLICVNEGSCCEQCSDHGTGRSC 112  
QY 119 SCAPGYKLGDLLQCHPAVKFCGRPMKMEKKRSHLKRDEDEQDVDPRLIDKMTTR 178  
DB 113 RCHGSLADGVSCPTVEYPCGK-IPLEKRA-----SKQGRIVGKVCCK 161  
QY 179 GDSFWQVLLDSKKLIACGAVLIHPSWVLTAAHCWDESK--KLVRLGEYDLRMEKWE 235  
DB 162 GECFMQVLLVNGAQ-CGFTLINTIWWVSAHCFDKIKWRNLIAYLGEHDLSEHDGE 220  
QY 236 LDLDIKFVFNHYKSTTDNDIALHLAQPATLSQTVPLCLPDSGLARELINQAQET 295  
DB 221 QSRRAQVILPSTYVPGTTHDIALRLHPVVLIDHVPPLCLPESTFSEKRLAFV-RFS 279  
QY 296 LVTGMGYHSSREKEAKRNRTFVLFKIPVPHNECSEVM-----SNMVSNNLCAGLIG 350  
DB 280 LVSGMQLDRGNTA-----LELMVLIWVPRMTQDCLQSRKVDSPNITETVFCAGYSD 334  
QY 351 DRDACEBDSGGPMVASFHGTWFLVGLVSGEGCGLLHNYGVYTKVSRYLDMHGHTRDK 410  
DB 335 GSKDSCKDGGGPHATHYRGTWLTLGLVSWGQCATVGHFGVTVRSQYLEWLCQKLMSE 394  
QY 411 EAP 413  
DB 395 PRP 397

RESULT 55  
US-10-617-500-1  
Sequence 1, Application US/10617500  
Publication No. US20040072755A1

GENERAL INFORMATION:  
APPLICANT: Novo Nordisk Pharmaceuticals, Inc.  
APPLICANT: Stenmick, Henning R  
APPLICANT: Bjorn, Soren E  
APPLICANT: Petersen, Lars C  
TITLE OF INVENTION: TF Antagonist  
FILE REFERENCE: 6510.200-US  
CURRENT APPLICATION NUMBER: US/10/617,500  
PRIOR FILING DATE: 2003-07-11  
PRIOR APPLICATION NUMBER: Danish Application No. PA 2002 01100  
PRIOR FILING DATE: 2002-07-12  
PRIOR APPLICATION NUMBER: US 60/404,567  
PRIOR FILING DATE: 2002-08-19  
NUMBER OF SEQ ID NOS: 3  
SOFTWARE: PatentIn version 3.2  
SEQ ID NO 1  
LENGTH: 406  
TYPE: PRT  
ORGANISM: Artificial  
FEATURE:  
OTHER INFORMATION: Synthetic  
NAME/KEY: MISC\_FEATURE  
LOCATION: (1)..(406)  
OTHER INFORMATION: Xaa=4-carboxyglutamic acid (gamma-carboxyglutamate)  
US-10-617-500-1

Query Match 31.2%; Score 726; DB 12; Length 406;  
Best Local Similarity 36.6%; Pred. No. 1,4e-53;  
Matches 155; Conservative 75; Mismatches 157; Indels 36; Gaps 10;

QY 1 ANSFLELRHSSLEBCEIEICDFEBAKEIFQNVDTLAFWSKXNDGQCLVPLBHPCA 60  
DB 1 ANAFLLXLRGSLXKXCKXQCSFXAXKIFDXAKRTLFWISYSDGDC-----AS 52  
QY 61 SLCCGHTCIDIGSFSCDCSGMBGRFCQ-REVSFLNCSLDNGGCTHYCLBEVGMRC-C 118  
DB 53 SPCQNGSCCKDQLOSYTCFCPLPAFEGNCCETHKDQDLICVNEGSCCEQCSDHGTGRSC 112  
QY 119 SCAPGYKLGDLLQCHPAVKFCGRPMKMEKKRSHLKRDEDEQDVDPRLIDKMTTR 178  
DB 113 RCHGSLADGVSCPTVEYPCGK-IPLEKRA-----SKQGRIVGKVCCK 161  
QY 179 GDSFWQVLLDSKKLIACGAVLIHPSWVLTAAHCWDESK--KLVRLGEYDLRMEKWE 235  
DB 162 GECFMQVLLVNGAQ-CGFTLINTIWWVSAHCFDKIKWRNLIAYLGEHDLSEHDGE 220  
QY 236 LDLDIKFVFNHYKSTTDNDIALHLAQPATLSQTVPLCLPDSGLARELINQAQET 295  
DB 221 QSRRAQVILPSTYVPGTTHDIALRLHPVVLIDHVPPLCLPESTFSEKRLAFV-RFS 279  
QY 296 LVTGMGYHSSREKEAKRNRTFVLFKIPVPHNECSEVM-----SNMVSNNLCAGLIG 350  
DB 280 LVSGMQLDRGNTA-----LELMVLIWVPRMTQDCLQSRKVDSPNITETVFCAGYSD 334  
QY 351 DRDACEBDSGGPMVASFHGTWFLVGLVSGEGCGLLHNYGVYTKVSRYLDMHGHTRDK 410  
DB 335 GSKDSCKDGGGPHATHYRGTWLTLGLVSWGQCATVGHFGVTVRSQYLEWLCQKLMSE 394  
QY 411 EAP 413  
DB 395 PRP 397

RESULT 56  
US-10-109-498-1  
Sequence 1, Application US/10109498  
Publication No. US20030044908A1  
GENERAL INFORMATION:  
APPLICANT: Persson, Egon  
TITLE OF INVENTION: Coagulation Factor VII Derivatives  
FILE REFERENCE: 6286.200-US  
CURRENT APPLICATION NUMBER: US/10/109,498



```

RESULT 59
US-10-386-898-7
; Sequence 7, Application US/10386698
; Publication No. US20030229018A1
; GENERAL INFORMATION:
; APPLICANT: No. US20030229018A1o No. US20030229018A1dsk Pharmaceuticals, Inc.
; APPLICANT: Kjalke, Marianne
; APPLICANT: Jakobsen, Palte
; APPLICANT: Stenmücke, Henning Ralf
; TITLE OF INVENTION: DIMERIC TF ANTAGONIST
; FILE REFERENCE: 6445.200-US
; CURRENT APPLICATION NUMBER: US/10/386,898
; CURRENT FILING DATE: 2003-03-12
; PRIOR APPLICATION NUMBER: Danish Application PA 2002 00373
; PRIOR FILING DATE: 2002-03-12
; PRIOR APPLICATION NUMBER: US 60/365,935
; PRIOR FILING DATE: 2002-03-19
; NUMBER OF SEQ ID NOS: 7
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 7
; LENGTH: 406
; TYPE: PRT
; ORGANISM: human coagulation Factor VII
; FEATURE:
; NAME/KEY: MISC FEATURE
; LOCATION: (1)_(406)
; OTHER INFORMATION: Xaa means 4-carboxyglutamic acid (gamma-carboxyglutamate)
US-10-386-898-7

```

Query Match	31.24;	Score 726;	DB 15;	Length 406;
Best Local Similarity	36.64;	Pred. No. 1.4e-53;		
Matches 155;	Conservative 75;	Mismatches 157;	Indels 36;	Gaps 10;

  

QY	1	ANFTEELRHSLEIREIETEDPEAKELFCQVNDTLAFMSKXVHGDCLVLEHPQA	60
Db	1	ANAFVLLXPLPGSLRKKCKKQCKCFXAXXIFLQAKRTFLMISDQD-----AS	52
QY	61	SLCCGHTGICIGISFSCDCDSRGWGRFCQ-RVSLFNLCSLDNGGCTHCTCLEYGMRR-C	118
Db	53	SPQDNGSKQDLQSYICFLTPAFGRNCTHNDQDLGVNENGGCCQYCSHRTGRSS-	112

```

RESULT 60
US-10-411-037-10
; Sequence 10, Application US/10411037
; Publication NO. US20040043446A1
; GENERAL INFORMATION:
; APPLICANT: Neose Technologies, Inc.
; APPLICANT: Desreux, Shawn
; APPLICANT: Zopf, David
; APPLICANT: Bayer, Robert
; APPLICANT: Hakes, David
; APPLICANT: Chen, Xi
; APPLICANT: Bove, Caryn
; TITLE OF INVENTION: ALPHA GALACTOSIDASE A
; FILE REFERENCE: 040853-01-5082
; CURRENT APPLICATION NUMBER: US/10/411,037
; CURRENT FILING DATE: 2003-04-09
; PRIOR APPLICATION NUMBER: US 60/328,523
; PRIOR FILING DATE: 2001-10-10
; PRIOR APPLICATION NUMBER: US 60/344,592
; PRIOR FILING DATE: 2001-10-19
; PRIOR APPLICATION NUMBER: US 60/387,292
; PRIOR FILING DATE: 2002-06-07
; PRIOR APPLICATION NUMBER: US 60/391,777
; PRIOR FILING DATE: 2002-06-25
; PRIOR APPLICATION NUMBER: US 60/396,594
; PRIOR FILING DATE: 2002-07-17
; PRIOR APPLICATION NUMBER: US 60/404,249
; PRIOR FILING DATE: 2002-08-16
; PRIOR APPLICATION NUMBER: US 60/407,527
; PRIOR FILING DATE: 2002-08-28
; NUMBER OF SEQ ID NOS: 75
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 10
; LENGTH: 462
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-411-037-10

```

Query Match 31.2%; Score 725.5; DB 12; Length 462;  
Best Local Similarity 35.44; Pred. No. 1,9e-53;  
Matches 151; Conservative 69; Mismatches 157; Indels 49; Gaps 11.

Ox 5 LEEIRISSRECEETLECOPEAKETIFONDDTLAFSKHAGDQGLVLPHEHCALGC 64  
||| ||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :||| :|||  
Db 52 LEEFVGATIERRCOMEKCSBEPFEVENETKEKTFRMQYDGDQCESNP-----CL 103

QY 65 GHGTCIDIGSFSDRCSGWEGRFQCEVSVFLNCSLDNGGCTHCLIEVGMK-RSCCAPG 123  
 DB 104 NGGSCCKDINSYECWCPFGFEGKNCLELDTV---CNKNGRCEQFCNKSADNKVCSCTEG 160  
 QY 124 YKLGDDLLQCHPAVPCGRPWKMEKKRSHLKADTEDQEDQVP-----168  
 DB 161 YRLANQSCPEPAVPPCGRVSVSOTSKLTRAANVPP-VQVNPTEAETILNITQGTQ 219  
 QY 169 -----RLIDKMTRRGDSPPWQVLLDSKKKLAAGAVLIHPSVLTAAHOMDESKLLVR 222  
 DB 220 SFNDPTRVVGGEDAKGQFPQVY-LNGKVDAFCGGSIVNEKMTVTAACHVETGVKITIV 278  
 QY 223 LGEYDLRMEKMEHLLD-LKEVFVHPNYSKT--DNDAIALLHAQPAITLSTQITVPC 279  
 DB 279 AGHNHEETETHEKRNVRALIPHNHNAINKINEDIALLEDEPLVLSVYTPICIA 338  
 QY 280 DSGLAEREINQAGETLVYTWG--YHSSREKAKRRNRTFVNFIKIPVPHNCESEVMNS 337  
 DB 339 DKETYNIFLAKG--SGVYSGMARVPHKGRS-----ALVQLYLRVPLVDRACTLRSTKF 389  
 QY 338 MVEENMLCAGILGRDACEGDSGSPWYASFGHTWFLVGLVSWEGCGLLHNGVYTTXVS 397  
 DB 390 TIYNNMFCAGFHEGGRDSCGDSGGPHYTEVETGTSPLTGLISWGECCAMKXKGYITXVS 449  
 QY 398 RYLDWI 403  
 DB 450 RYVNMW 455

# RESULT 61 US-10-411-026-10

; Sequence 10, Application US/10411026  
 ; Publication No. US20040063911A1  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Neose Technologies, Inc.  
 ; APPLICANT: Defrees, Shawn  
 ; APPLICANT: Zopf, David  
 ; APPLICANT: Bayer, Robert  
 ; APPLICANT: Hakes, David  
 ; APPLICANT: Chen, Xi  
 ; TITLE OF INVENTION: PROTEIN REMODELING METHODS AND PEPTIDES PRODUCED BY THE  
 ; FILE OF INVENTION: METHODS  
 ; FILE REFERENCE: 040853-01-5053  
 ; CURRENT APPLICATION NUMBER: US/10/411,026  
 ; CURRENT FILING DATE: 2003-04-09  
 ; PRIOR APPLICATION NUMBER: US 60/328,523  
 ; PRIOR FILING DATE: 2001-10-10  
 ; PRIOR APPLICATION NUMBER: US 60/344,692  
 ; PRIOR FILING DATE: 2001-10-19  
 ; PRIOR APPLICATION NUMBER: US 60/387,292  
 ; PRIOR FILING DATE: 2002-06-07  
 ; PRIOR APPLICATION NUMBER: US 60/391,777  
 ; PRIOR FILING DATE: 2002-06-25  
 ; PRIOR APPLICATION NUMBER: US 60/396,594  
 ; PRIOR FILING DATE: 2002-07-17  
 ; PRIOR APPLICATION NUMBER: US 60/404,249  
 ; PRIOR FILING DATE: 2002-08-16  
 ; PRIOR APPLICATION NUMBER: US 60/407,527  
 ; PRIOR FILING DATE: 2002-08-28  
 ; NUMBER OF SEQ ID NOS: 75  
 ; SOFTWARE: PatentIn version 3.2  
 ; SEQ ID NO 10  
 ; LENGTH: 462  
 ; TYPE: PRT  
 ; ORGANISM: Homo sapiens  
 ; US-10-411-026-10

Query Match 31.2%; Score 725.5; DB 12; Length 462;  
 Best Local Similarity 35.4%; Pred. No. 1.9e-53;  
 Matches 151; Conservative 69; Mismatches 157; Indels 49; Gaps 11;  
 QY 5 LEIRHSSLERCTEITCDPEAKETIFQVNDTLAFNSKVDQDQVLPFHFHCASLCC 64  
 DB 11

DB 52 LGEFVQNLRECEMEKSCFEEPREVENTEKTTEFMQYVDQCESNF-----CL 103  
 QY 65 GHGTCIDIGSFSDRCSGWEGRFQCEVSVFLNCSLDNGGCTHCLIEVGMK-RSCCAPG 123  
 DB 104 NGGSCCKDINSYECWCPFGFEGKNCLELDTV---CNKNGRCEQFCNKSADNKVCSCTEG 160  
 QY 124 YKLGDDLLQCHPAVPCGRPWKMEKKRSHLKADTEDQEDQVP-----168  
 DB 161 YRLANQSCPEPAVPPCGRVSVSOTSKLTRAANVPP-VQVNPTEAETILNITQGTQ 219  
 QY 169 -----RLIDKMTRRGDSPPWQVLLDSKKKLAAGAVLIHPSVLTAAHOMDESKLLVR 222  
 DB 220 SFNDPTRVVGGEDAKGQFPQVY-LNGKVDAFCGGSIVNEKMTVTAACHVETGVKITIV 278  
 QY 223 LGEYDLRMEKMEHLLD-LKEVFVHPNYSKT--DNDAIALLHAQPAITLSTQITVPC 279  
 DB 279 AGHNHEETETHEKRNVRALIPHNHNAINKINEDIALLEDEPLVLSVYTPICIA 338  
 QY 280 DSGLAEREINQAGETLVYTWG--YHSSREKAKRRNRTFVNFIKIPVPHNCESEVMNS 337  
 DB 339 DKETYNIFLAKG--SGVYSGMARVPHKGRS-----ALVQLYLRVPLVDRACTLRSTKF 389  
 QY 338 MVEENMLCAGILGRDACEGDSGSPWYASFGHTWFLVGLVSWEGCGLLHNGVYTTXVS 397  
 DB 390 TIYNNMFCAGFHEGGRDSCGDSGGPHYTEVETGTSPLTGLISWGECCAMKXKGYITXVS 449  
 QY 398 RYLDWI 403  
 DB 450 RYVNMW 455

# RESULT 62 US-10-410-962-10

; Sequence 10, Application US/10410962  
 ; Publication No. US20040077836A1  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Neose Technologies, Inc.  
 ; APPLICANT: Defrees, Shawn  
 ; APPLICANT: Zopf, David  
 ; APPLICANT: Bayer, Robert  
 ; APPLICANT: Hakes, David  
 ; APPLICANT: Chen, Xi  
 ; TITLE OF INVENTION: GLYCOCONJUGATE COLONY STIMULATING FACTOR: REMODELING AND  
 ; FILE OF INVENTION: GLYCOCONJUGATION OF G-CSF  
 ; FILE REFERENCE: 040853-01-5054  
 ; CURRENT APPLICATION NUMBER: US/10/410,962  
 ; CURRENT FILING DATE: 2003-04-09  
 ; PRIOR APPLICATION NUMBER: US 60/328,523  
 ; PRIOR FILING DATE: 2001-10-10  
 ; PRIOR APPLICATION NUMBER: US 60/344,692  
 ; PRIOR FILING DATE: 2001-10-19  
 ; PRIOR APPLICATION NUMBER: US 60/387,292  
 ; PRIOR FILING DATE: 2002-06-07  
 ; PRIOR APPLICATION NUMBER: US 60/391,777  
 ; PRIOR FILING DATE: 2002-06-25  
 ; PRIOR APPLICATION NUMBER: US 60/396,594  
 ; PRIOR FILING DATE: 2002-07-17  
 ; PRIOR APPLICATION NUMBER: US 60/404,249  
 ; PRIOR FILING DATE: 2002-08-16  
 ; PRIOR APPLICATION NUMBER: US 60/407,527  
 ; PRIOR FILING DATE: 2002-08-28  
 ; NUMBER OF SEQ ID NOS: 75  
 ; SOFTWARE: PatentIn version 3.2  
 ; SEQ ID NO 10  
 ; LENGTH: 462  
 ; TYPE: PRT  
 ; ORGANISM: Homo sapiens  
 ; US-10-410-962-10

Query Match 31.2%; Score 725.5; DB 16; Length 462;  
 Best Local Similarity 35.4%; Pred. No. 1.9e-53;  
 Matches 151; Conservative 69; Mismatches 157; Indels 49; Gaps 11;



```

QY 5 LEEHSHSLRECEIEICDPEBAKEIFQVNDTTLAFWSKAVDQCVLPLEHPCASLCC 64
  |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 52 LEEFVQGNLEERECMEKCKSEFEPRFVFNTEKTEFEWQYVDGQCESNP-----CL 103
QY 65 GHGTCTDIDIGSFSCDRCSGMEGRFCQREVSFLNCSLDNGGCTHYCLEBVGWR-RSCGAPG 123
  |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 104 NGGSCKDDINSYECWCPFGFBGKNCBLDVT---CNKNGRCQFCGNADNKVYCSCTEG 160
QY 124 YKLGDLLQCHPAVAFPCGRPMKMEKKRSHLKRDEQEDQVDP-----168
  |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 161 YRLAENQKSCBPAPVPCGAVSVGTSKLTFAVAFPD-VDVNPTFAETLIDNTIGTQ 219
QY 169 -----RLIDGKMTTRGDSPMQVYLLDSKKLACGAVLHPSVYLTAAHMDSESKLLVR 222
  |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 220 SFNDFTRVVGGEADAKPGQFPQVYV-LNGKVDAPFCGSIYNEKVIYTAHCVETGKTYV 278
QY 223 LGEYDLRRWEKMELDLD-IKEVFVHPNYSKSTT--DNDAIALHLAQPATLSQTVPICLP 279
  |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 279 AGEHNIETEETETEQKRNVIPTAITPHNYNAINKYNDIALLDEBPLVINSYVTPICIA 338
QY 280 DSGLAERELNQAQGETLVYTGW--YHSSREKAKARNRTFVNFIKIPVPHNECSEVMSN 337
  |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 339 DKEYTNIFLKFG--SGVYSGMARVPHKGRS-----ALVLYQLRVPLVDRAATCLRSITKF 389
QY 338 MVSSEMLCAGILGDRQACGDSGSPMVASTHGTWFLVGVSGCGLLHNVGYTKVS 397
  |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 390 TIYNNMFCAGFHEGRDSCQDSGSPHTEVEGTSFLTGILISWGBEAMKKGKIGLYTKVS 449
QY 398 RYLDWI 403
  |||:|||||
Db 450 RYVWMI 455

```

## RESULT 63

```

US-10-411-049-10
; Sequence 10, Application US/10411049
; Publication No. US20040082026A1
; GENERAL INFORMATION:
; APPLICANT: Neose Technologies, Inc.
; APPLICANT: Deftrees, Shawn
; APPLICANT: Zopf, David
; APPLICANT: Bayer, Robert
; APPLICANT: Hakes, David
; APPLICANT: Chen, Xi
; TITLE OF INVENTION: INTERFERON ALPHA, REMODELING AND GLYCOCONJUGATION OF INTERFERON
; FILE REFERENCE: 040853-01-5055
; CURRENT FILING DATE: 2003-04-09
; PRIOR FILING DATE: 2001-10-10
; PRIOR APPLICATION NUMBER: US 60/328,523
; PRIOR FILING DATE: 2001-10-10
; PRIOR APPLICATION NUMBER: US 60/344,692
; PRIOR FILING DATE: 2001-10-19
; PRIOR APPLICATION NUMBER: US 60/387,292
; PRIOR FILING DATE: 2002-06-07
; PRIOR APPLICATION NUMBER: US 60/391,777
; PRIOR FILING DATE: 2002-06-25
; PRIOR APPLICATION NUMBER: US 60/396,594
; PRIOR FILING DATE: 2002-07-17
; PRIOR APPLICATION NUMBER: US 60/404,249
; PRIOR FILING DATE: 2002-08-16
; PRIOR APPLICATION NUMBER: US 60/407,527
; PRIOR FILING DATE: 2002-08-28
; NUMBER OF SEQ ID NOS: 75
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 10
; LENGTH: 462
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-411-049-10

```

```

Query Match 31.2%; Score 725.5; DB 16; Length 462;
Best Local Similarity 35.4%; Pred. No. 1.9e-53;
Matches 151; Conservative 69; Mismatches 157; Indels 49; Gaps 11;
QY 5 LEEHSHSLRECEIEICDPEBAKEIFQVNDTTLAFWSKAVDQCVLPLEHPCASLCC 64
  |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 52 LEEFVQGNLEERECMEKCKSEFEPRFVFNTEKTEFEWQYVDGQCESNP-----CL 103
QY 65 GHGTCTDIDIGSFSCDRCSGMEGRFCQREVSFLNCSLDNGGCTHYCLEBVGWR-RSCGAPG 123
  |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 104 NGGSCKDDINSYECWCPFGFBGKNCBLDVT---CNKNGRCQFCGNADNKVYCSCTEG 160
QY 124 YKLGDLLQCHPAVAFPCGRPMKMEKKRSHLKRDEQEDQVDP-----168
  |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 161 YRLAENQKSCBPAPVPCGAVSVGTSKLTFAVAFPD-VDVNPTFAETLIDNTIGTQ 219
QY 169 -----RLIDGKMTTRGDSPMQVYLLDSKKLACGAVLHPSVYLTAAHMDSESKLLVR 222
  |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 220 SFNDFTRVVGGEADAKPGQFPQVYV-LNGKVDAPFCGSIYNEKVIYTAHCVETGKTYV 278
QY 223 LGEYDLRRWEKMELDLD-IKEVFVHPNYSKSTT--DNDAIALHLAQPATLSQTVPICLP 279
  |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 279 AGEHNIETEETETEQKRNVIPTAITPHNYNAINKYNDIALLDEBPLVINSYVTPICIA 338
QY 280 DSGLAERELNQAQGETLVYTGW--YHSSREKAKARNRTFVNFIKIPVPHNECSEVMSN 337
  |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 339 DKEYTNIFLKFG--SGVYSGMARVPHKGRS-----ALVLYQLRVPLVDRAATCLRSITKF 389
QY 338 MVSSEMLCAGILGDRQACGDSGSPMVASTHGTWFLVGVSGCGLLHNVGYTKVS 397
  |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 390 TIYNNMFCAGFHEGRDSCQDSGSPHTEVEGTSFLTGILISWGBEAMKKGKIGLYTKVS 449
QY 398 RYLDWI 403
  |||:|||||
Db 450 RYVWMI 455

```

## RESULT 64

```

US-10-406-031-31
; Sequence 31, Application US/10406031
; Publication No. US20040043017A1
; GENERAL INFORMATION:
; APPLICANT: Mascl, Paul Pantaleone
; APPLICANT: Mascl, John
; APPLICANT: Lavin, Martin
; TITLE OF INVENTION: PROTHROMBIN ACTIVATING PROTEIN
; FILE REFERENCE: 15685-002001
; CURRENT FILING DATE: 2003-04-02
; PRIOR FILING DATE: 2003-03-07
; PRIOR APPLICATION NUMBER: AU 2003901033
; PRIOR FILING DATE: 2002-04-03
; NUMBER OF SEQ ID NOS: 51
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 31
; LENGTH: 376
; TYPE: PRT
; ORGANISM: Tropidochis carinatus
US-10-406-031-31

```

```

Query Match 31.2%; Score 724; DB 12; Length 376;
Best Local Similarity 35.7%; Pred. No. 1.9e-53;
Matches 148; Conservative 73; Mismatches 136; Indels 58; Gaps 9;
QY 1 ANSFLERHSHSLRECEIEICDPEBAKEIFQVNDTTLAFWSKAVDQCVLPLEHPCA 60
  |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 1 SNSLFEIRPENIERCEIEKCKSEKAEVFEVDNETETFMNVYVDDQSSNP-----54
QY 61 SLCCGCTCIDIGISFSCDRCSGMEGRFCQREVSFLNCSLDNGGCTHYCLEBVGWR-RSCG 120
  |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 55 --CHYGTCKDIGISYVTCCLPNYEGKRCR-VLYOSGVNNGNCHWPCRYKVSQTQSC 111

```

QY 121 AFGYKLDLQCHPAVFPQGRPMKMKRSHLKADTDQEDQVDPRLIDGKMTRED 180  
Db 112 AERYLGDVSHSCVAEGDFSCGRNFKARKN-----YNGMDCKDGE 152  
QY 181 SPQVYLLDSKKKLAGAVLIHPSWVLTAAHCDMSKKLIVRLGEYDLRMEKMLDLDI 240  
Db 153 CPQWAVLNRKEGVFGGIIISPIHVLTAAHCINTKSV-----KETRRL-----LSV 200  
QY 241 KEFVH-----PNY-----SKSTDNDIALIHLAQPAISQTIYPICLPDSGLAREL 288  
Db 201 DKIVYHFKVPFVPMYVYVHQNPDRAVADYDIALIRMKPTIQFSEVVPACLPADFA-NEV 259  
QY 289 NQAGETLVYMGVSHSREKAKRNFVNLFIKIPVPHNECEVSMVMSNNLQAGI 348  
Db 260 LMKDPSGVSGFG-----RIQKQPTNLTAKTIVPYDRHTCLMSDRITLQMFQAGY 314  
QY 349 LGRDQACDCEGSGPMAVAFHGTWFLVGLVMSGGCLLHNYGVYTKVSRYLMDI 403  
Db 315 DTLPDQACQDGGSGPHITMYRLTHITGIISWEGCARKKGYVYTVKSFPLWI 369

## RESULT 65

US-10-382-248-36  
; Sequence 36, Application US/10382248  
; Publication No. US20040058347A1  
; GENERAL INFORMATION:  
; APPLICANT: Alcobrook, et al.  
; TITLE OF INVENTION: NOVEL PROTEINS AND NUCLEIC ACIDS ENCODING SAME  
; FILE REFERENCE: 21402-568C  
; CURRENT APPLICATION NUMBER: US/10/382,248  
; PRIOR FILING DATE: 2003-03-05  
; PRIOR APPLICATION NUMBER: 60/366,928  
; PRIOR FILING DATE: 2002-03-22  
; PRIOR APPLICATION NUMBER: 60/361,974  
; PRIOR FILING DATE: 2002-03-06  
; PRIOR APPLICATION NUMBER: 60/365,477  
; PRIOR FILING DATE: 2002-03-19  
; PRIOR APPLICATION NUMBER: 60/401,661  
; PRIOR FILING DATE: 2002-08-06  
; SOFTWARE: CuraSeqIst version 0.1  
; NUMBER OF SEQ ID NOS: 82  
; SEQ ID NO 36  
; LENGTH: 419  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-382-248-36

Query Match 28.9%; Score 671.5; DB 12; Length 419;  
Best Local Similarity 34.4%; Pred. No. 6.8e-49;  
Matches 145; Conservative 72; Mismatches 125; Indels 79; Gaps 9;

QY 1 ANSTDEBLHSHSLERECTIEICPEPAKAITQVNDOTLAWSKHTDGOQCLVLELHPQA 60  
Db 61 ANATLEELRPGSLERCKEBCQCFEAREEIFDEAKTKLFWISYSDGQC-----AS 112  
QY 61 SLCCGHTCIDIGISFSDCRSGMGRFCQREVSFLNCSLDNGGCTHYCLEBVGMRRCSC 120  
Db 113 SPQWGSCKDQLOSYICFLPAFEGNCE----- 142  
QY 121 AFGYKLDLQCHPAVFPQGRPMKMKRSHLKADTDQEDQVDPRLIDGKMTRED 180  
Db 143 -----TLEYPCGK-IPILEKRNA-----SKQGIIVGKVCPEKS 176  
QY 181 SPQVYLLDSKKKLAGAVLIHPSWVLTAAHCDMSKKLIVRLGEYDLRMEKMLD 237  
Db 177 CPWQVLLVNGAQL-CGGTLINTIIVVSAHCFDKIKWKNLIVAVLGEHDLSEHDGEGS 235  
QY 238 LDIKEVFNHNSKSTNDIALIHLAQPAISQTIYPICLPDSGLARELNOAGQETIV 297  
Db 236 RRAQVLIIPSTVPGTTHDIALIRLHQPVVLTDHVVLCLPRTSERTLAFA-RFSIIV 294  
QY 298 TGMGYHSSREKAKRNFVNLFIKIPVPHNECEV-----SNVSNMLCAGIIGDR 352

Db 295 SGWGLIDRDATA-----LEIMVLNVERLMTQDCLQGRKXVGSNITTEYFCAGISDGS 349  
QY 353 QNACGSGSGPMAVAFHGTWFLVGLVMSGGCLLHNYGVYTKVSRYLMDIGHIRDEKA 412  
Db 350 KQSCGDSGGPHATHYRGWTITGIVSWGGCATYGHGVYTVRSQYIEMLKMRSEPR 409  
QY 413 P 413  
Db 410 P 410

## RESULT 66

US-09-951-121A-1  
; Sequence 1, Application US/09951121A  
; Publication No. US20030104978A1  
; GENERAL INFORMATION:  
; APPLICANT: Persson, Egon  
; TITLE OF INVENTION: Human Coagulation Factor VII Variants  
; FILE REFERENCE: 6224.200-US  
; CURRENT APPLICATION NUMBER: US/09/951,121A  
; PRIOR FILING DATE: 2001-09-13  
; PRIOR APPLICATION NUMBER: PA 2000 01361  
; PRIOR FILING DATE: 2000-09-13  
; PRIOR APPLICATION NUMBER: 60/236,455  
; PRIOR FILING DATE: 2000-09-29  
; NUMBER OF SEQ ID NOS: 17  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 1  
; LENGTH: 426  
; TYPE: PRT  
; ORGANISM: Native Human Coagulation Factor VII  
US-09-951-121A-1

Query Match 28.4%; Score 661; DB 10; Length 426;  
Best Local Similarity 36.2%; Pred. No. 5.5e-48;  
Matches 140; Conservative 71; Mismatches 140; Indels 36; Gaps 10;

QY 37 TLAFWSKAYDGDQCLVLELHPQASLCCGHTCIDIGISFSDCRSGMGRFCQ-REVSF 95  
Db 57 TKLFMTSYSDGQC-----ASSPCQWGSCKDQLOSYICFLPAFEGNCEHTHDDQ 108  
QY 96 LNSGLDNGCTHYCLEBVGMR-CGAPGYKLDLQCHPAVFPQGRPMKMKRSH 154  
Db 109 LICVNGGGEQYCSDHGTGRSCRCHEBSYSLADGVSCPTVEYPCGK-IPILEKNA- 166  
QY 155 LKRPTEQEDQVDPRLIDGKMTREDSPQVYLLDSKKKLAGAVLIHPSWVLTAAHCD 214  
Db 167 -----SKQGIIVGKVCPEKS----- 216  
QY 215 ESK-----KLIVRLGEYDLRMEKMLDLDIKEYFVFNPSKSTNDNDIALIHLAQPAISQ 271  
Db 217 KIKWKNLIVAVLGEHDLSEHDGEGSRVAQVLIIPSTVPGTTHDIALIRLHQPVVLT 276  
QY 272 TIYPICLPDSGLARELNOAGQETIVYMGVSHSREKAKRNFVNLFIKIPVPHNEC 331  
Db 277 HVPLCLPRTSERTLAFA-RFSIIVSWGQLIDGATA-----LEIMVLNVERLMTQD 330  
QY 332 SEVM-----SNVSNMLCAGIIGDRDQACEDSGPMAVAFHGTWFLVGLVMSGGCL 386  
Db 331 LQGRKXVGSNITTEYFCAGYSDGSKDSCGPHATHYRGWTITGIVSWGGCAT 390  
QY 387 LHNQVYTKVSRYLMDIGHIRDEKA 413  
Db 391 VGHFSGYTVRSQYIEMLKMRSEPR 417

RESULT 67  
US-09-848-107-1  
; Sequence 1, Application US/09848107  
; Publication No. US20030170863A1  
; GENERAL INFORMATION:  
; APPLICANT: Persson, Egon

```

; APPLICANT: Olsen, Ole Hvilsted
; TITLE OF INVENTION: Human Coagulation Factor VII Variants
; FILE REFERENCE: 61/6.200-US
; CURRENT APPLICATION NUMBER: US/09/848,107
; CURRENT FILING DATE: 2001-05-03
; PRIOR APPLICATION NUMBER: PA 2000 00734
; PRIOR FILING DATE: 2000-05-03
; PRIOR APPLICATION NUMBER: PA 2000 01360
; PRIOR FILING DATE: 2000-09-13
; PRIOR APPLICATION NUMBER: 60/204,712
; PRIOR FILING DATE: 2000-05-16
; PRIOR APPLICATION NUMBER: 60/236,892
; PRIOR FILING DATE: 2000-09-29
; NUMBER OF SEQ ID NOS: 27
; SOFTWARE: FASTSEQ for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 426
; TYPE: PRT
; ORGANISM: Human
US-09-848-107-1

```

```

Query Match      28.4%, Score 661; DB 10; Length 426;
Best Local Similarity 36.2%, Pred. No. 5,5e-48;
Matches 140; Conservative 71; Mismatches 140; Indels 36; Gaps 10;

```

```

QY 37 TLAMSKHNDPOCVLPLEHPQASLCCHGTCIDGSGSPDCDSGMEGRFCQ-REVSF 95
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 57 TKLFWISYSDGQC-----ASSPCQNGSSCKDQLOSTICCLPABGRNCETHDDQ 108
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 96 LNCSLDNGGCTHYCLEEYGMRR-CSCAPGYKLGDDLLQCHPAVKPCGPPKRMKKRSH 154
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 109 LICNENGGCEQYCDHGTGRSQRCHBGYSLLADGVSCPTVEYCGK-IPLEKRNA- 166
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 155 LKRDTEQEDQVDPRLIDGKMTTRGDSPPQVVLDSKKKLACGAVILHPSWTLTAACMD 214
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 167 -----SKPGGRIVGKVCPRKCECPWQVLLVNGAQL-CGGTLINTIWWVSAHCFD 216
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 215 ESK---KLVRIGEYDLRMEKWEMLDLDIKEVFVHPNYSKTTDNDIALHLAOPATLSQ 271
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 217 KIKMRNLIVLGEHDLSEHGDQSRRAQYIITSTVPGTTHDIALRLHQPVVLTD 276
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 272 TVPCLPDSGLAEELNQAGQETLYTGWGYSSEKEKAKNRTFVNLKIPVVPANEC 331
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 277 HVPPLCLPERTFSEKTLAFV-RFSLVSGWQQLLDGATA-----LEIMVLNVPRLMTQDC 330
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 332 SEVM-----SNMVSNNLCAGILGDRDACEGDSGGPVNVSFHGTFTVLGLVSGEGCG 386
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 331 IQQSRKVGDSPTITEYMFCAGSDGSDSCDKSGGPHATYRGTWYLTGLVSGGCGAT 390
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 387 LHNQVYTKVSRYLWDVHGHTRDEAP 413
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 391 VGHFVYTRVSQYIEMWLQKLRSEPR 417
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:

```

```

RESULT 68
US-10-295-682-1
; Sequence 1, Application US/10295682
; Publication No. US20030100740A1
; GENERAL INFORMATION:
; APPLICANT: Persson, Egon
; APPLICANT: Olsen, Ole Hvilsted
; TITLE OF INVENTION: Human Coagulation Factor VII Variants
; FILE REFERENCE: 6224.200-US
; CURRENT APPLICATION NUMBER: US/10/295,682
; CURRENT FILING DATE: 2002-11-15
; PRIOR APPLICATION NUMBER: PA 2000 01361
; PRIOR FILING DATE: 2000-09-13
; PRIOR APPLICATION NUMBER: 60/236,455
; PRIOR FILING DATE: 2000-09-29
; NUMBER OF SEQ ID NOS: 17
; SOFTWARE: FASTSEQ for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 426

```

```

; TYPE: PRT
; ORGANISM: Native Human Coagulation Factor VII
US-10-295-682-1

```

```

Query Match      28.4%, Score 661; DB 14; Length 426;
Best Local Similarity 36.2%, Pred. No. 5,5e-48;
Matches 140; Conservative 71; Mismatches 140; Indels 36; Gaps 10;

```

```

QY 37 TLAMSKHNDPOCVLPLEHPQASLCCHGTCIDGSGSPDCDSGMEGRFCQ-REVSF 95
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 57 TKLFWISYSDGQC-----ASSPCQNGSSCKDQLOSTICCLPABGRNCETHDDQ 108
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 96 LNCSLDNGGCTHYCLEEYGMRR-CSCAPGYKLGDDLLQCHPAVKPCGPPKRMKKRSH 154
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 109 LICNENGGCEQYCDHGTGRSQRCHBGYSLLADGVSCPTVEYCGK-IPLEKRNA- 166
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 155 LKRDTEQEDQVDPRLIDGKMTTRGDSPPQVVLDSKKKLACGAVILHPSWTLTAACMD 214
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 167 -----SKPGGRIVGKVCPRKCECPWQVLLVNGAQL-CGGTLINTIWWVSAHCFD 216
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 215 ESK---KLVRIGEYDLRMEKWEMLDLDIKEVFVHPNYSKTTDNDIALHLAOPATLSQ 271
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 217 KIKMRNLIVLGEHDLSEHGDQSRRAQYIITSTVPGTTHDIALRLHQPVVLTD 276
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 272 TVPCLPDSGLAEELNQAGQETLYTGWGYSSEKEKAKNRTFVNLKIPVVPANEC 331
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 277 HVPPLCLPERTFSEKTLAFV-RFSLVSGWQQLLDGATA-----LEIMVLNVPRLMTQDC 330
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 332 SEVM-----SNMVSNNLCAGILGDRDACEGDSGGPVNVSFHGTFTVLGLVSGEGCG 386
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 331 IQQSRKVGDSPTITEYMFCAGSDGSDSCDKSGGPHATYRGTWYLTGLVSGGCGAT 390
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
QY 387 LHNQVYTKVSRYLWDVHGHTRDEAP 413
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 391 VGHFVYTRVSQYIEMWLQKLRSEPR 417
   |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:

```

```

RESULT 69
US-10-038-854-6
; Sequence 6, Application US/10038954
; Publication No. US20040022781A1
; GENERAL INFORMATION:
; APPLICANT: Spytek, Kimberly A
; APPLICANT: Li, Li
; APPLICANT: Wolenc, Adam R
; APPLICANT: Vernet, Corine
; APPLICANT: Eissen, Andrew J
; APPLICANT: Liu, Xiaohong
; APPLICANT: Malyankar, Uriel M
; APPLICANT: Shimkets, Richard A
; APPLICANT: Tchernev, Velizar
; APPLICANT: Spaderma, Steven K
; APPLICANT: Gorman, Linda
; APPLICANT: Kekuda, Ramesh
; APPLICANT: Paturajan, Weera
; APPLICANT: Gusev, Vladimir Y
; APPLICANT: Gangolli, Esha A
; APPLICANT: Guo, Xiaojia S
; APPLICANT: Shenoy, Suresh G
; APPLICANT: Rastelli, Luca
; APPLICANT: Casman, Stacie J
; APPLICANT: Boldog, Ferenc
; APPLICANT: Burgess, Catherine E
; APPLICANT: Edinger, Shlomit R
; APPLICANT: Ellerman, Karen
; APPLICANT: Gunther, Erik
; APPLICANT: Smithson, Glenda
; APPLICANT: Mallet, Isabelle
; APPLICANT: MacDougall, John R
; TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same
; FILE REFERENCE: 21402-230
; CURRENT APPLICATION NUMBER: US/10/038,854
; CURRENT FILING DATE: 2003-01-22

```

```
/ PRIOR APPLICATION NUMBER: 60/258,928
/ PRIOR FILING DATE: 2000-12-29
/ PRIOR APPLICATION NUMBER: 60/259,415
/ PRIOR FILING DATE: 2001-01-02
/ PRIOR APPLICATION NUMBER: 60/259,785
/ PRIOR FILING DATE: 2001-01-04
/ PRIOR APPLICATION NUMBER: 60/269,814
/ PRIOR FILING DATE: 2001-02-20
/ PRIOR APPLICATION NUMBER: 60/279,832
/ PRIOR FILING DATE: 2001-03-29
/ PRIOR APPLICATION NUMBER: 60/279,833
/ PRIOR FILING DATE: 2001-03-29
/ PRIOR APPLICATION NUMBER: 60/279,863
/ PRIOR FILING DATE: 2001-03-29
/ PRIOR APPLICATION NUMBER: 60/283,889
/ PRIOR FILING DATE: 2001-04-13
/ PRIOR APPLICATION NUMBER: 60/284,447
/ PRIOR FILING DATE: 2001-04-18
/ PRIOR APPLICATION NUMBER: 60/286,683
/ PRIOR FILING DATE: 2001-04-25
/ Remaining Prior Application data removed - See file wrapper or PAM.
/ NUMBER OF SEQ ID NOS: 411
/ SOFTWARE: Patentm Ver. 2.1
/ SEQ ID NO 6
/ LENGTH: 394
/ TYPE: PRT
/ ORGANISM: Homo sapiens
US-10-038-854-6
```

```
Query Match      27.2%; Score 632.5; DB 16; Length 394;
Best Local Similarity 32.6%; Pred. No. 1.4e-45;
Matches 133; Conservative 64; Mismatches 130; Indels 81; Gaps 9;
```

```
QY 5 LELAHSSLEKECEIEICDFEAKKIFQNVDDTLAFWSKHYVDGQCLVPLEHPGAS 64
DB 52 LEEFVQGNLERCEIECKESFEAKREVFENTERTEFWKQYVGGQCSNP-----CL 103
QY 65 GAGTCIDIGSFSCDRCSGMEGRFCQREVSFLNCS-----LDNGGCTHYCLEVGMRRCS 119
DB 104 NGSSCKDDINSYECWCFPGBEKNCEDVDVYSTAEITLDN----- 146
QY 120 CAGYKLGDDLQCHPAVKFPCCGRPWKMEKKKSHLKRTDEQEDVDVPLDGMKTRG 179
DB 147 -----ITOSTQSFNDFL--RVVGGSDAKRG 169
QY 180 DSPWQVLLDSKKKLAGAVLIHPSWVLTAAHGMDSKTLVRLGEYDLERMEKMLD 239
DB 170 QFHWQV-LNGKVDAPCGSGIVNEKVIYTAHCVETGCKITVYASSENHETETHEOKRN 228
QY 240 IKEVFNHPYKSTT--DNDIALHQAQATLSQITVPICLPDSGLAERLDAQGETLV 297
DB 229 VIRIIPHHNYMAINKYNDHIALLEDEPLVANSYVPICIADKEYTNIFLKG--SGYV 286
QY 298 TWG--YHSSEKAKAKRTFYVNTIKIPVPHNEGSEVMSNMVENMLCAGLSGRQA 355
DB 287 SGWGRVFKRS-----ALVLYLRVPLVDRAATCLRSKFTIYNNPFGAGHEGRDS 339
QY 356 CEQSGGEPVVASFHGTWFLVGLVSWEGCGGLHNYGYTKVSRVLDWI 403
DB 340 CQDSSGPHVTEVEGTSTFLGITISWEGCAKKGKGIYTKSRVYNNI 387
```

```
RESULT 70
US-10-406-031-30
/ Sequence 30, Application US/10406031
/ Publication No. US20040043017A1
/ GENERAL INFORMATION:
/ APPLICANT: Masci, Paul Pantaleone
/ APPLICANT: De Jersey, John
/ APPLICANT: Lavin, Martin
/ TITLE OF INVENTION: PROTHROMBIN ACTIVATING PROTEIN
/ FILE REFERENCE: 15685-002001
/ CURRENT APPLICATION NUMBER: US/10/406,031
```

```
/ CURRENT FILING DATE: 2003-04-02
/ PRIOR APPLICATION NUMBER: AU 2003901033
/ PRIOR FILING DATE: 2003-03-07
/ PRIOR APPLICATION NUMBER: AU PS1463
/ PRIOR FILING DATE: 2002-04-03
/ NUMBER OF SEQ ID NOS: 51
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 30
/ LENGTH: 421
/ TYPE: PRT
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Consensus sequence
US-10-406-031-30
```

```
Query Match      27.2%; Score 631; DB 12; Length 421;
Best Local Similarity 38.0%; Pred. No. 2e-45;
Matches 158; Conservative 72; Mismatches 122; Indels 64; Gaps 25;
```

```
QY 2 NSFLLEHNSLEKECEIEICDFEAKKIFQNVDDTLAFWSKHYVDGQCLVPLEHPGAS 61
DB 41 NSLFEPR-GNIERECIEE-CSKEAREVFED-EKTEFMVYVYDQCSSNP----- 90
QY 62 LCCGHTCIDIGSFSCDRCSGMEGRFCQREVSFLNCSLDNGGCTHYCLEVGMRRCSA 121
DB 91 -CHYKGTCKDIGSYTCTCL--YEGKNC--EVLKSCRVNNGNCHFC--KVQNDQCSA 143
QY 122 PGYKLGDDLQCHPAVKFPCCGRPWKMEKKKSHLKRTDEQEDV-----DPRLI 171
DB 144 E-YLADG---HCVAGSFCGRNTR-KREASLDPFQSNMTLKSNDSPDIRIV 197
QY 172 DGMTRRGDSFMQVLLDSKKKLAGAVLIHPSWVLTAAHGMDSKTLVRLGEYDLRW 231
DB 198 NGMDCKLGRCPQVVL---DEKVFQGTILSPYVLTAAHCINQ--KISVVEHIDISRK 253
QY 232 EKEHLDLPIKEVFN---PYSKSTNDIALHQAQATLSQITVPICLPDSGLAERL 288
DB 254 ETL---LSVDIKIYHKKVPPYF-DVYDDIALTQMKTPIQFSENVPCLPLDFANQV 309
QY 289 NQAGETLVATGWSHREKAKRNTFVNFIL-IPVPHNEGSEVMSNMVENMLCAG 347
DB 310 MKQ-DGGLVSGF-----RIGPSVTLKVVPYVDRBTC--MSSFTIP-MFCAG 353
QY 348 ILDDRQACEDSGGEPVVASFHGTWFLVGLVSWEGCGGLHNYGYTKVSRVLDWI 403
DB 354 -YDLPDCAQDSSGPHVTAIRYDPIITG-ISMWEGCA-KKRGVYTKVSKFLPMI 406
```

```
RESULT 71
US-10-406-031-28
/ GENERAL INFORMATION:
/ APPLICANT: Masci, Paul Pantaleone
/ APPLICANT: De Jersey, John
/ APPLICANT: Lavin, Martin
/ TITLE OF INVENTION: PROTHROMBIN ACTIVATING PROTEIN
/ FILE REFERENCE: 15685-002001
/ CURRENT APPLICATION NUMBER: US/10/406,031
/ PRIOR APPLICATION NUMBER: AU 2003901033
/ PRIOR FILING DATE: 2003-03-07
/ PRIOR APPLICATION NUMBER: AU PS1463
/ PRIOR FILING DATE: 2002-04-03
/ NUMBER OF SEQ ID NOS: 51
/ SOFTWARE: FastSeq for Windows Version 4.0
/ OTHER INFORMATION: Xaa = any amino acid
/ FEATURE:
/ NAME/KEY: VARIANT
/ LOCATION: 41, 50, 79, 114, 154, 177, 255, 272, 290
/ OTHER INFORMATION: Xaa = small amino acid residue
/ NAME/KEY: VARIANT
/ LOCATION: 45, 48, 70, 124, 126, 197, 210, 227, 258, 261, 312, 314,
/ LOCATION: 347, 365, 378, 419, 423, 437, 441, 451
```



Db 573 VMKSPFNRMWYOMGIIVSMGSCDRDOKGYFTYHFRILKMI 613

## RESULT 73

US-10-017-631-2  
 ; Sequence 2, Application US/10017631  
 ; Publication No. US2003009957A1  
 ; GENERAL INFORMATION:  
 ; APPLICANT: McCarthy, Jeanette  
 ; TITLE OF INVENTION: DIAGNOSIS AND TREATMENT OF VASCULAR DISEASE  
 ; FILE REFERENCE: LMI-006  
 ; CURRENT APPLICATION NUMBER: US/10/017, 631  
 ; CURRENT FILING DATE: 2001-12-14  
 ; PRIOR APPLICATION NUMBER: 60/325, 930  
 ; NUMBER OF SEQ ID NOS: 4  
 ; SOFTWARE: PatentIn Ver. 2.0  
 ; SEQ ID NO 2  
 ; LENGTH: 622  
 ; TYPE: PRF  
 ; ORGANISM: Homo sapiens  
 ; US-10-017-631-2

Query Match 24.2%; Score 562.5; DB 14; Length 622;  
 Best Local Similarity 29.1%; Pred. No. 2,3e-39;  
 Matches 169; Conservative 62; Mismatches 161; Indels 189; Gaps 24;

QY 1 ANSPLEERHSSIERECIEICDPEEAKETFGVNDTLAFMSKHVDGQCLVPLEHPCA 60  
 Db 44 ANTFLEVRKGNLRECVETCSYEAFALBSSTATDVFAKTACTART-PRDKLAA 102  
 QY 61 SLCCGHTCIDGIGS-----FSCD-----CR- 81  
 Db 103 ---CLEGNACAGLGNVGHVNTSRGIECQLWRSRYPHKPEINSTTHPGADLOENFCRN 159  
 QY 82 --SGWGRFC-----QREVSFLN-----CSLDNGG 104  
 Db 160 PDSSTTGWCYTTDPTVRROBCSIIVCGQDQVTVAMTPRSBSSVNLSPLEQCPBDDQ 219  
 QY 105 -----CTH-----YCU-----BEVGRRCSCA 121  
 Db 220 QYGRLATYTHGRLPCLAMASQAALSKHODFNSAVOLVENFCNPDGBEGVW---CY 275  
 QY 122 PGYKLGD---DLQCHPAV-----KFP 140  
 Db 276 VAKRGDGYCDLNYCEAVEETGDLGDESDRALGRTATSEYQTFENPRTSGEAD 335  
 QY 141 CG-RPMKMEKRSHLKRDTEDEQDQVPRILDGKMTTRGDSPMQVYL--DSKKLACGA 198  
 Db 336 CGLRP--LFEKKSLEDEKTERELLESYIDGRIVGSDAEIGMSPMQVWLPKSPQELLCGA 393  
 QY 199 VLIHPSVULTAACHM-----DES---KKLIVRLGEYDLRMEK-WEIIDLKIVFVHNY 249  
 Db 394 SLISDRWVLTAAHCLLTPPMDKNFTENDLVRIGKSRTRRYERINIKISMLEKITYHPRY 453  
 QY 250 S-KSTTNDIALHLAOPATLSQTVPCLPDSGLAERELNAGQETLYTGMG-YHSSRE 307  
 Db 454 NWRENDRDIALMLKPKPVAFSDYIHPVCLPDRETA-ASILDAGYKGRVGMNALKETWT 512  
 QY 308 KEAKNRRTFVNFILKIPVVPNHCEVMSNVSENNLCAGIL---GDRDACEGDSGGM 364  
 Db 513 ANVGKQPSVLTQVNLPIVERPVCDSIRITDNMFCAGYPRDGRKRGACGDSGGPF 572  
 QY 365 V-ASFHGTWPLVGLVSMGEGCGLLHNTGYTKYSRYLMI 403  
 Db 573 VMKSPFNRMWYOMGIIVSMGSCDRDOKGYFTYHFRILKMI 613

RESULT 74  
 US-10-214-932-116  
 ; Sequence 116, Application US/10214932  
 ; Publication No. US20030100707A1

GENERAL INFORMATION:  
 ; APPLICANT: Hwang, Inhan  
 ; APPLICANT: Kim, Dae Heon  
 ; APPLICANT: Lee, Yong Jik  
 ; TITLE OF INVENTION: SYSTEM FOR DETECTING PROTEASE  
 ; FILE REFERENCE: APB02/US  
 ; CURRENT APPLICATION NUMBER: US/10/214, 932  
 ; CURRENT FILING DATE: 2002-08-08  
 ; NUMBER OF SEQ ID NOS: 133  
 ; SOFTWARE: PatentIn version 3.1  
 ; SEQ ID NO 116  
 ; LENGTH: 622  
 ; TYPE: PRF  
 ; ORGANISM: Homo sapiens  
 ; US-10-214-932-116

Query Match 24.2%; Score 562.5; DB 14; Length 622;  
 Best Local Similarity 29.1%; Pred. No. 2,3e-39;  
 Matches 169; Conservative 62; Mismatches 161; Indels 189; Gaps 24;

QY 1 ANSPLEERHSSIERECIEICDPEEAKETFGVNDTLAFMSKHVDGQCLVPLEHPCA 60  
 Db 44 ANTFLEVRKGNLRECVETCSYEAFALBSSTATDVFAKTACTART-PRDKLAA 102  
 QY 61 SLCCGHTCIDGIGS-----FSCD-----CR- 81  
 Db 103 ---CLEGNACAGLGNVGHVNTSRGIECQLWRSRYPHKPEINSTTHPGADLOENFCRN 159  
 QY 82 --SGWGRFC-----QREVSFLN-----CSLDNGG 104  
 Db 160 PDSSTTGWCYTTDPTVRROBCSIIVCGQDQVTVAMTPRSBSSVNLSPLEQCPBDDQ 219  
 QY 105 -----CTH-----YCU-----BEVGRRCSCA 121  
 Db 220 QYGRLATYTHGRLPCLAMASQAALSKHODFNSAVOLVENFCNPDGBEGVW---CY 275  
 QY 122 PGYKLGD---DLQCHPAV-----KFP 140  
 Db 276 VAKRGDGYCDLNYCEAVEETGDLGDESDRALGRTATSEYQTFENPRTSGEAD 335  
 QY 141 CG-RPMKMEKRSHLKRDTEDEQDQVPRILDGKMTTRGDSPMQVYL--DSKKLACGA 198  
 Db 336 CGLRP--LFEKKSLEDEKTERELLESYIDGRIVGSDAEIGMSPMQVWLPKSPQELLCGA 393  
 QY 199 VLIHPSVULTAACHM-----DES---KKLIVRLGEYDLRMEK-WEIIDLKIVFVHNY 249  
 Db 394 SLISDRWVLTAAHCLLTPPMDKNFTENDLVRIGKSRTRRYERINIKISMLEKITYHPRY 453  
 QY 250 S-KSTTNDIALHLAOPATLSQTVPCLPDSGLAERELNAGQETLYTGMG-YHSSRE 307  
 Db 454 NWRENDRDIALMLKPKPVAFSDYIHPVCLPDRETA-ASILDAGYKGRVGMNALKETWT 512  
 QY 308 KEAKNRRTFVNFILKIPVVPNHCEVMSNVSENNLCAGIL---GDRDACEGDSGGM 364  
 Db 513 ANVGKQPSVLTQVNLPIVERPVCDSIRITDNMFCAGYPRDGRKRGACGDSGGPF 572  
 QY 365 V-ASFHGTWPLVGLVSMGEGCGLLHNTGYTKYSRYLMI 403  
 Db 573 VMKSPFNRMWYOMGIIVSMGSCDRDOKGYFTYHFRILKMI 613

RESULT 75  
 US-10-172-712-29  
 ; Sequence 29, Application US/10172712  
 ; Publication No. US20030125232A1  
 ; GENERAL INFORMATION:  
 ; APPLICANT: GRIFELIN, JOHN H.  
 ; APPLICANT: GALE, ANDREW D.  
 ; APPLICANT: GETZOFF, ELIZABETH D.  
 ; APPLICANT: PELLEGUER, JEAN-LOU  
 ; TITLE OF INVENTION: STABILIZED PROTEINS WITH ENGINEERED DISULFIDE BONDS  
 ; FILE REFERENCE: 4198-4001US1  
 ; CURRENT APPLICATION NUMBER: US/10/172, 712

CURRENT FILING DATE: 2002-09-30  
 PRIOR APPLICATION NUMBER: 60/298,578  
 PRIOR FILING DATE: 2001-06-14  
 NUMBER OF SEQ ID NOS: 32  
 SOFTWARE: Patent In Ver. 2.1  
 SEQ ID NO 29  
 LENGTH: 622  
 TYPE: PRT  
 ORGANISM: Homo sapiens  
 US-10-172-712-29

Query Match 24.2% Score 562.5; DB 14; Length 622;  
 Best Local Similarity 29.1%; Pred. No. 2,38-39;  
 Matches 169; Conservative 62; Mismatches 161; Indels 189; Gaps 24;

QY 1 ANSFLELHSSLEECIEBICDFEAKEIFQNVDTLAFMSKHYVDGCLVPLEHPCA 60  
 DB 44 ANFLEEVKGNLRECEVBEETCSYEAFALSSSTATDVMAYACETART-PRDKLAA 102  
 QY 61 SLCCGGTCTIDGSGS-----FSCD-----CR- 81  
 DB 103 ---CLBNCAGELGNYRGHVNITRSGIBCOLMSRYPHKPEINSTTHPGADLOENFCN 159  
 QY 82 --SGWGRPC-----CREVSFLN-----CSLDNG 104  
 DB 160 PDSITGFWCTTPTPTVRQECISIPVCGDDQVYVAMTPREBSGVNLSPELBCVPRDQ 219  
 QY 105 -----CTH-----YTL-----EYVGRCSQA 121  
 DB 220 QYGRLLAVTTHGLPCLAMASQAKALSKHODFNSAVOLVENFCRNPDEBEGVW---CY 275  
 QY 122 PGYKLD-----DLQCHPAV-----KFP 140  
 DB 276 VAGPAGDFGCDLNTCEBAVEETGCLDESDRAISGRATSEYOTFRNRTGSEAD 335  
 QY 141 CG-PPWKEKRSKSHLKEDTEDODVDPRLLDGKMRGRDSPWQVLL-DSKKCAQGA 198  
 DB 336 CGLR--LPEKSLBEDKTERLESTYIDGRIVESGDAEIMSPWQVLPFRSPQELICGA 393  
 QY 199 VLIHPSWTLTAHCH-----DES---KLLVNLSEYDLRMEK-WELDDIKEYFVHPNY 249  
 DB 394 SLISDRWTLTAHCHLLPMDKNFTENDLLVIGKSHRYENIKISMEKTYIHPRY 453  
 QY 250 S-KSTTNDIALHLAOPATLSQTIPICLPDSGLARELNQAGETLVWGNG-YHSRRE 307  
 DB 454 NWRNLDRLDIALMLKAKPVASDYIHPVCLPDRETH-ASLLQGYGRTGTGMLKRTW 512  
 QY 308 KEAKRNTFYLNFIKIPVPHNECSEVMSNMVSENLCAGIL---GDRDACEGDSGGPW 364  
 DB 513 ANWGQGPVLYVNLPIVERPVCCKSTRIRITDMFCAGYKDESKRGDACEGDSGGPW 572  
 QY 365 V--ASFHGTWFLVGLVSGEGGCLNHYGYTKVSRKYLDMW 403  
 DB 573 VMKSPFNRMWYQMGIVSWGEGCDRDKGYTHVFLRKWL 613

RESULT 76  
 US-10-072-012-410  
 Sequence 410, Application US/10072012  
 Publication No. US2004003493A1  
 GENERAL INFORMATION:

APPLICANT: Tchemnev, Velizar  
 APPLICANT: Spytek, Kimberly  
 APPLICANT: Zernuhen, Bryan  
 APPLICANT: Patuturajan, Meera  
 APPLICANT: Shimkets, Richard  
 APPLICANT: Li, Li  
 APPLICANT: Gangolli, Esha  
 APPLICANT: Padigaru, Muralidhara  
 APPLICANT: Anderson, David W.  
 APPLICANT: Rastelli, Luca  
 APPLICANT: Miller, Charles E.  
 APPLICANT: Gerlach, Valerie

APPLICANT: Taupier Jr, Raymond J.  
 APPLICANT: Gusev, Vladimir Y.  
 APPLICANT: Colman, Steven D.  
 APPLICANT: Wolenc, Adam R.  
 APPLICANT: Pena, Carol E. A  
 APPLICANT: Furtak, Katarzyna  
 APPLICANT: Grose, William M.  
 APPLICANT: Alsebrook II, John P.  
 APPLICANT: Lepley, Denise M.  
 APPLICANT: Rieger, Daniel K.  
 APPLICANT: Burgess, Catherine E.  
 TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same  
 FILE REFERENCE: 21402-258  
 CURRENT APPLICATION NUMBER: US/10/072,012

PRIOR FILING DATE: 2002-01-31  
 PRIOR APPLICATION NUMBER: 60/265,102  
 PRIOR FILING DATE: 2001-01-30  
 PRIOR APPLICATION NUMBER: 60/265,514  
 PRIOR FILING DATE: 2001-01-31  
 PRIOR APPLICATION NUMBER: 60/265,517  
 PRIOR FILING DATE: 2001-01-31  
 PRIOR APPLICATION NUMBER: 60/265,412  
 PRIOR FILING DATE: 2001-01-31  
 PRIOR APPLICATION NUMBER: 60/265,395  
 PRIOR FILING DATE: 2001-01-31  
 PRIOR APPLICATION NUMBER: 60/266,406  
 PRIOR FILING DATE: 2001-02-02  
 PRIOR APPLICATION NUMBER: 60/266,767  
 PRIOR FILING DATE: 2001-02-05  
 PRIOR APPLICATION NUMBER: 60/267,057  
 PRIOR FILING DATE: 2001-02-07  
 PRIOR APPLICATION NUMBER: 60/266,975  
 PRIOR FILING DATE: 2001-02-07  
 PRIOR APPLICATION NUMBER: 60/267,459  
 PRIOR FILING DATE: 2001-02-08  
 Remaining prior application data removed - See file Wrapper or PALM.

NUMBER OF SEQ ID NOS: 1391  
 SOFTWARE: Patent In Ver. 2.1  
 SEQ ID NO 410  
 LENGTH: 799  
 TYPE: PRT  
 ORGANISM: Mus musculus  
 US-10-072-012-410

Query Match 22.0% Score 510.5; DB 12; Length 799;  
 Best Local Similarity 34.9%; Pred. No. 8,7e-35;  
 Matches 137; Conservative 52; Mismatches 141; Indels 63; Gaps 19;

QY 40 FMSKHYDGOCLVPLEHPQASLCCGHTCT--DGISFSCDRSGMGRFCQREVSFL 96  
 DB 436 YSLYLNQSDPC-----GGEFLCSVNGLCVPACDGIK---DQPNGLBRNCVCRAMF- 483  
 QY 97 NCSLNGCCHYCLBEVGRRCSPGYKLGDDLLQCHPAVFCGRPWKEKRSKSHLK 156  
 DB 484 QCGEDS--TISLIPRY---CDROPCLNGSBECQBGV--FCGFTTQGE-DRSCYK 533  
 QY 157 R-----DTEDEDOQ-----VDPRLDGKTRGRDSEWQVLLDSKKLCAQGA 198  
 DB 534 KNPBCDQSDCRGSGDEHCGCGLOGLSRIVGTVSSEBPMQ--ASLQIRGHITCGG 592  
 QY 199 VLIHPSWTLTAHCHMBE---SKL-LVRLGEYDLARMEM--ELDDIKEYVHPNYSK 251  
 DB 593 ALIADRWVITTAHCFODESMASPKLMTYFLGK--MKQNSRMEGSEVSRRLFLPHYBE 650  
 QY 252 STTNDIALHLAOPATLSQTIPICLPDSGLARELNQAGETLVWGNGYHSRREKAK 311  
 DB 651 DSHDDIVALLQDHPVYATVRYCIP---ARSHFFPGQHCWITGWC--AQREGPV 704  
 QY 312 RNFETVLFNFIKIPVPHNECSEVMSNMVSENLCAGILGDRDACEGDSGGPWV-SPHG 370  
 DB 705 SN---TLQKVVQVQLVPPDCLSEAYRYQVSPRLCAGYRKKKDAQDSGGPLVCREPG 761  
 QY 371 TWFLVGLVSGEGGCLNHYGYTKVSRKYLDMW 403

Db 762 RFLAGLVSMGLGCGRPNFSGVYTRVIVNMI 794

## RESULT 77

US-10-072-012-416

Sequence 416, Application US/10072012

Publication No. US2004003493A1

GENERAL INFORMATION:

APPLICANT: Tchernyev, Velizar

APPLICANT: Spytek, Kimberly

APPLICANT: Zernhusen, Bryan

APPLICANT: Patturajan, Meera

APPLICANT: Shinkets, Richard

APPLICANT: Li, Li

APPLICANT: Gangolli, Esha

APPLICANT: Padigaru, Muralidhara

APPLICANT: Anderson, David W.

APPLICANT: Baetelli, Luca

APPLICANT: Miller, Charles E.

APPLICANT: Gerlach, Valerie

APPLICANT: Taupier Jr, Raymond J.

APPLICANT: Gusev, Vladimir Y.

APPLICANT: Coleman, Steven D.

APPLICANT: Molenc, Adam R.

APPLICANT: Futrak, Katarzyna

APPLICANT: Grosse, William M.

APPLICANT: Alsobrook II, John P.

APPLICANT: Lepley, Denise M.

APPLICANT: Rieger, Daniel K.

APPLICANT: Burgess, Catherine E.

TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same

FILE REFERENCE: 21402-258

CURRENT APPLICATION NUMBER: US/10/072,012

CURRENT FILING DATE: 2002-01-31

PRIOR APPLICATION NUMBER: 60/265,102

PRIOR FILING DATE: 2001-01-30

PRIOR APPLICATION NUMBER: 60/265,514

PRIOR FILING DATE: 2001-01-31

PRIOR APPLICATION NUMBER: 60/265,517

PRIOR FILING DATE: 2001-01-31

PRIOR APPLICATION NUMBER: 60/265,412

PRIOR FILING DATE: 2001-01-31

PRIOR APPLICATION NUMBER: 60/265,395

PRIOR FILING DATE: 2001-01-31

PRIOR APPLICATION NUMBER: 60/266,406

PRIOR FILING DATE: 2001-02-02

PRIOR APPLICATION NUMBER: 60/266,767

PRIOR FILING DATE: 2001-02-05

PRIOR APPLICATION NUMBER: 60/267,057

PRIOR FILING DATE: 2001-02-07

PRIOR APPLICATION NUMBER: 60/266,975

PRIOR FILING DATE: 2001-02-07

PRIOR APPLICATION NUMBER: 60/267,459

PRIOR FILING DATE: 2001-02-08

Remaining Prior Application data removed - See File Wrapper or PALM.

NUMBER OF SEQ ID NOS: 1391

SOFTWARE: PatentIn Ver. 2.1

SEQ ID NO 416

LENGTH: 799

TYPE: PRT

ORGANISM: Mus musculus

US-10-072-012-416

Query Match 22.0%, Score 510.5, DB 12, Length 799;

Best Local Similarity 34.9%, Pred. No. 8.7e-35;

Matches 137, Conservative 52, Mismatches 141, Indels 63, Gaps 19;

QY 40 FWSHYVDGQCIVLLEHPCASLCGHGTCT---DGISPCDCCSGWEGRCQREVSFL 96

Db 436 YSLIVNGSDPC-----PGEFLCSYNGLCVPADGDK-----DCRNGIDRANCYCAAMF- 483

QY 97 NCSLDNGGCTHYCTLEBVGMRGSCAPGYKLGDDLLQCHPAVKPCGRPWKMKRKRSHLK 156

Db 484 QCGEDS---TCTSLPRV-----CDRQPCDNGSDDEBQCGEGV--PCGTFPGCG-DRSCVX 533

QY 157 R-----DTEDEQDQ-----VDERLDGRKTRGDSFQWYVLLDKKKLACGA 198

Db 534 KNPCECGQSDRCDGSDGQDCGLQGLSRRTVGTVSGSEBFWQ--ASLQTRGHICGG 592

QY 199 VLIHPSWLTARAHOMD-----SKXL-LVRLGEYDRLBWEKN--ELDDIDKEVFPNYSK 251

Db 593 ALIADRWVITAHCFQEDSMASPKMTVFYGR--NRQSRKPGSVSKYSRLFLPHYHEE 650

QY 252 STTDNDIALHLAQPATLSQITVPICLPDSGLAERLNQAQETLVTWGYSRRKREAK 311

Db 651 DSHDIDVALLQDHPVYVYATVRYCJL-----ARSHFFPGQHCWITGWC--AQRGGGPV 704

QY 312 RRRFTVNLFIKIPVPHNECSFWSNWSNMTCAGILGDQDQDCBDSGCGPVYA-SHFG 370

Db 705 SN---TLQKVVOVLVPDCLSHAYRYQVSPRMLCAGYRKKKACQSDSGPLVCRRPSG 761

QY 371 TWFLVGVSMGCGGLAHNYGYTVKVSRYLDWI 403

Db 762 RFLAGLVSMGLGCGRPNFSGVYTRVIVNMI 794

RESULT 78

US-09-981-151A-87

Sequence 87, Application US/09981151A

Publication No. US20030212256A1

GENERAL INFORMATION:

APPLICANT: Edinger, Shlomit R

APPLICANT: Gerlach, Valerie

APPLICANT: MacDougall, John R

APPLICANT: Malyankar, Muriel M

APPLICANT: Smithson, Glenda

APPLICANT: Miller, Isabelle

APPLICANT: Peyman, John A

APPLICANT: Stone, David J

APPLICANT: Gunther, Erik

APPLICANT: Ellerman, Karen

APPLICANT: Shinkets, Richard A

APPLICANT: Padigaru, Muralidhara

APPLICANT: Guo, Xiaojia

APPLICANT: Patturajan, Meera

APPLICANT: Taupier Jr, Raymond J

APPLICANT: Burgess, Catherine E

APPLICANT: Zernhusen, Bryan D

APPLICANT: Kerkuta, Rameah

APPLICANT: Spytek, Kimberly A

APPLICANT: Gangolli, Esha A

APPLICANT: Fernandes, Elma R

APPLICANT: Gorman, Linda

TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same

FILE REFERENCE: 21402-168

CURRENT APPLICATION NUMBER: US/09/981,151A

CURRENT FILING DATE: 2001-10-16

PRIOR APPLICATION NUMBER: 60/241,040

PRIOR FILING DATE: 2000-10-17

PRIOR APPLICATION NUMBER: 60/241,058

PRIOR FILING DATE: 2000-10-17

PRIOR APPLICATION NUMBER: 60/241,063

PRIOR FILING DATE: 2000-10-17

PRIOR APPLICATION NUMBER: 60/241,243

PRIOR FILING DATE: 2000-10-17

PRIOR APPLICATION NUMBER: 60/242,152

PRIOR FILING DATE: 2000-10-20

PRIOR APPLICATION NUMBER: 60/242,482

PRIOR FILING DATE: 2000-10-23

PRIOR APPLICATION NUMBER: 60/242,611

PRIOR FILING DATE: 2000-10-23

PRIOR APPLICATION NUMBER: 60/242,612

PRIOR FILING DATE: 2000-10-23

PRIOR APPLICATION NUMBER: 60/242,880



;; PRIOR FILING DATE: 2000-10-24  
;; PRIOR APPLICATION NUMBER: 60/242,881  
;; PRIOR FILING DATE: 2000-10-24  
;; Remaining Prior Application data removed - See File Wrapper or PALM.  
;; NUMBER OF SEQ ID NOS: 160  
;; SOFTWARE: Patent Ver. 2.1  
;; SEQ ID NO 87  
;; LENGTH: 230  
;; TYPE: PRT  
;; ORGANISM: Artificial Sequence  
;; FEATURES:  
;; OTHER INFORMATION: Description of Artificial Sequence: Trypsin-like  
;; OTHER INFORMATION: serine protease Consensus Sequence  
us-09-981-151A-87

Query Match 21.0%; Score 488.5; DB 11; Length 230;  
Best Local Similarity 45.0%; Pred. No. 1.4e-33;  
Matches 108; Conservative 32; Mismatches 85; Indels 15; Gaps 7;

QY 169 RLIDGKMTRRGDSFPMQVVLDSKKKLACGAVLIHPSWVLTAAHCDMS--KLLVRLGEY 226  
DB 1 RIVGSEANISGSPFQVSLQYRGGRHFCGSLIPRWVLTAAHCVGSAPSSIRVLSH 60  
QY 227 DLRMEKWEILDIDKEVFNHPNYSKSTTDNDIALHLAOPATLSQTIPTICLPDSGLAER 286  
DB 61 DISSGEETQ-TYKVSQVIVHPNYPSTYDNDIALKLSEPTLSDTVAPICLPSSGVNV- 118  
QY 287 ELNQAQGETLVTCMGCHSSREKAKRRTFTVNIKIPVPHNECEVMSN--MISENML 344  
DB 119 ---PAGTTCVSGWG---RTSESSGSLPDTLQEVNVPVSNATCRRAVSGGPAITDML 171  
QY 345 CAGILGRDQACGDSGSPMTASFHGTWFLVGLVSGE--GGGLHNYGVYTVSVSLDML 403  
DB 172 CAGILGGKDCACGDSGSPVLCN-DPRWLVGLVSGSYGCARPKNRGVYTVSVSLDML 230

## RESULT 79

US-09-981-151A-96

;; Sequence 96, Application US/09981151A  
;; Publication No. US20030212256A1

## GENERAL INFORMATION:

;; APPLICANT: Edinger, Shlomit R  
;; APPLICANT: Gerlach, Valerie  
;; APPLICANT: MacDougall, John R  
;; APPLICANT: Malyankar, Murtel M  
;; APPLICANT: Smithson, Glenna  
;; APPLICANT: Miller, Isabelle  
;; APPLICANT: Peyman, John A  
;; APPLICANT: Stone, David J  
;; APPLICANT: Gunther, Erik  
;; APPLICANT: Ellerman, Karen  
;; APPLICANT: Shimkets, Richard A  
;; APPLICANT: Padigaru, Muralidhara  
;; APPLICANT: Guo, Xiaojia  
;; APPLICANT: Paturajan, Meera  
;; APPLICANT: Taupier Jr, Raymond J  
;; APPLICANT: Burgess, Catherine E  
;; APPLICANT: Zernusen, Bryan D  
;; APPLICANT: Kerkuda, Ramesh  
;; APPLICANT: Spytek, Kimberly A  
;; APPLICANT: Gangolli, Esna A  
;; APPLICANT: Fernandes, Elma R  
;; APPLICANT: Gorman, Linda  
;; TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same  
;; FILE REFERENCE: 21402-168  
;; CURRENT APPLICATION NUMBER: US/09/981,151A  
;; PRIOR FILING DATE: 2001-10-16  
;; PRIOR APPLICATION NUMBER: 60/241,040  
;; PRIOR FILING DATE: 2000-10-17  
;; PRIOR APPLICATION NUMBER: 60/241,058  
;; PRIOR FILING DATE: 2000-10-17  
;; PRIOR APPLICATION NUMBER: 60/241,063  
;; PRIOR FILING DATE: 2000-10-17

;; PRIOR APPLICATION NUMBER: 60/241,243  
;; PRIOR FILING DATE: 2000-10-17  
;; PRIOR APPLICATION NUMBER: 60/242,152  
;; PRIOR FILING DATE: 2000-10-20  
;; PRIOR APPLICATION NUMBER: 60/242,482  
;; PRIOR FILING DATE: 2000-10-23  
;; PRIOR APPLICATION NUMBER: 60/242,611  
;; PRIOR FILING DATE: 2000-10-23  
;; PRIOR APPLICATION NUMBER: 60/242,612  
;; PRIOR FILING DATE: 2000-10-23  
;; PRIOR APPLICATION NUMBER: 60/242,880  
;; PRIOR FILING DATE: 2000-10-24  
;; PRIOR APPLICATION NUMBER: 60/242,881  
;; PRIOR FILING DATE: 2000-10-24  
;; Remaining Prior Application data removed - See File Wrapper or PALM.  
;; NUMBER OF SEQ ID NOS: 160  
;; SOFTWARE: Patent Ver. 2.1  
;; SEQ ID NO 96  
;; LENGTH: 230  
;; TYPE: PRT  
;; ORGANISM: Artificial Sequence  
;; FEATURES:  
;; OTHER INFORMATION: Description of Artificial Sequence: Trypsin-like  
;; OTHER INFORMATION: serine protease Consensus Sequence  
us-09-981-151A-96

Query Match 21.0%; Score 488.5; DB 11; Length 230;  
Best Local Similarity 45.0%; Pred. No. 1.4e-33;  
Matches 108; Conservative 32; Mismatches 85; Indels 15; Gaps 7;

QY 169 RLIDGKMTRRGDSFPMQVVLDSKKKLACGAVLIHPSWVLTAAHCDMS--KLLVRLGEY 226  
DB 1 RIVGSEANISGSPFQVSLQYRGGRHFCGSLIPRWVLTAAHCVGSAPSSIRVLSH 60  
QY 227 DLRMEKWEILDIDKEVFNHPNYSKSTTDNDIALHLAOPATLSQTIPTICLPDSGLAER 286  
DB 61 DISSGEETQ-TYKVSQVIVHPNYPSTYDNDIALKLSEPTLSDTVAPICLPSSGVNV- 118  
QY 287 ELNQAQGETLVTCMGCHSSREKAKRRTFTVNIKIPVPHNECEVMSN--MISENML 344  
DB 119 ---PAGTTCVSGWG---RTSESSGSLPDTLQEVNVPVSNATCRRAVSGGPAITDML 171  
QY 345 CAGILGRDQACGDSGSPMTASFHGTWFLVGLVSGE--GGGLHNYGVYTVSVSLDML 403  
DB 172 CAGILGGKDCACGDSGSPVLCN-DPRWLVGLVSGSYGCARPKNRGVYTVSVSLDML 230

## RESULT 80

US-10-042-865-155

;; Sequence 155, Application US/10042865  
;; Publication No. US20040029216A1

## GENERAL INFORMATION:

;; APPLICANT: Padigaru, Muralidhara  
;; APPLICANT: Li, Li  
;; APPLICANT: Zernusen, Bryan D  
;; APPLICANT: Casman, Stacie J  
;; APPLICANT: Shenoy, Suresh G  
;; APPLICANT: Spytek, Kimberly  
;; APPLICANT: Zhong, Mei  
;; APPLICANT: Gangolli, Esna A  
;; APPLICANT: Burgess, Catherine E  
;; APPLICANT: Paturajan, Meera  
;; APPLICANT: Verneet, Corine A.M  
;; APPLICANT: Taylor, Sarah  
;; APPLICANT: Tchernev, Velizar T  
;; APPLICANT: Miller, Charles E  
;; APPLICANT: Guo, Xiaojia  
;; APPLICANT: Boldog, Ference L  
;; APPLICANT: Grose, William M  
;; APPLICANT: Alsobrook II, John P  
;; APPLICANT: Gerlach, Valerie L  
;; APPLICANT: Edinger, Shlomit R  
;; APPLICANT: Rothenberg, Mark E

```

? APPLICANT: Ellerman, Karen
? APPLICANT: MacDougall, John
? APPLICANT: Malyankar, Uriel M
? APPLICANT: Millet, Isabelle
? APPLICANT: Peyman, John
? APPLICANT: Smithson, Glenda
? APPLICANT: Gunther, Erik
? APPLICANT: Stone, David
? TITLE OF INVENTION: Proteins, Polynucleotides Encoding Them and Methods of
? TITLE OF INVENTION: Using the Same
? FILE REFERENCE: 21402-537
? CURRENT APPLICATION NUMBER: US/1,0/042,865
? CURRENT FILING DATE: 2002-05-17
? PRIOR APPLICATION NUMBER: 60/260,417
? PRIOR FILING DATE: 2001-01-09
? PRIOR APPLICATION NUMBER: 60/260,831
? PRIOR FILING DATE: 2001-01-10
? PRIOR APPLICATION NUMBER: 60/272,338
? PRIOR FILING DATE: 2001-02-28
? PRIOR APPLICATION NUMBER: 60/274,876
? PRIOR FILING DATE: 2001-03-09
? PRIOR APPLICATION NUMBER: 60/284,704
? PRIOR FILING DATE: 2001-04-18
? NUMBER OF SEQ ID NOS: 264
? SOFTWARE: PatentIn Ver. 2.1
? SEQ ID NO 155
? LENGTH: 230
? TYPE: prt
? ORGANISM: Homo sapiens
? OS-10-042-865-155

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Query Match	21.0%;	Score 488.5;	DB 12;	Length 230;
Best Local Similarity	45.0%;	Pred. No. 1.4e-33;		
Matches 108;	Conservative 32;	Mismatches 85;	Indels 15;	Gaps 7;

QY 169 RLIDGKMTTGRGSPMPQVLLIDSKKILACAVLTHPSMVLTAHCHDS--KLLVRLGEX 226  
 Db 1 RIVGSEANIGSPFMOVSLQYRGGRHFGCSSLSPRMLVTAHACYGSANSTRRLGSH 60  
 QY 227 DLRWEKELDLIDIKVFFVFNPNYSKSTDDNDIALHLHAPATLSQITVPCIDPSGLAER 286  
 Db 61 DLSGSEBTQ-TYKYSKVIYVHPNNPSETYDNDIALKLSEPTVLSPTVRFCIPSSGYNV- 118  
 QY 287 ELNDAQEGLTVGMCYHSSFEKAKNRTFVLNATKIPVYPHNECSEWMN-AMSEML 344  
 Db 119 --PAGTTCVSGMG---RTSSSGSLPDTLQVWNPVIVSNATCRARYSGGPAITDML 171  
 QY 345 CAGILGDRDACEGSGGPPWYAFSHFTWFLVGLWSMG-CGGLHNRYVTKYSRLDMI 403  
 Db 172 CAGGLISGKDAQCSGSGPLVNC-DPRNVLTGISMOSIGCARPKKGVYTRRSSYLDMI 230

RESULT 81  
US-10-072-012-804

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```

APPLICANT: Pena, Carol E. A
APPLICANT: Futrak, Katarzyna
APPLICANT: Grosse, William M.
APPLICANT: Alsobrook II, John P.
APPLICANT: Lepley, Denise M.
APPLICANT: Rieger, Daniel K.
APPLICANT: Burgess, Catherine E.
TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same
FILE REFERENCE: 21402-258
CURRENT FILING DATE: 2002-01-31
PRIOR APPLICATION NUMBER: US/10/072,012
CURRENT FILING DATE: 2002-01-31
PRIOR APPLICATION NUMBER: 60/265,102
PRIOR FILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: 60/265,514
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,395
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/266,406
PRIOR FILING DATE: 2001-02-02
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR FILING DATE: 2001-02-05
PRIOR APPLICATION NUMBER: 60/267,057
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR FILING DATE: 2001-02-08
Remaining Prior Application data removed - See File Wrapper or PAM
NUMBER OF SEQ ID NOS: 1391
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 804
LENGTH: 230
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Trypsin-like
US-10-072-012-804

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Query Match	21.0%;	Score 488.5;	DB 12;	Length 230;
Best Local Similarity	45.0%;	Pred. No. 1.4e-33;		
Matches 108;	Conservative 32;	Mismatches 85;	Indels 15;	Gaps 7.

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QY      169 RLIDGKMRREDSDSQWVUULDSKKKALCGAVVLLHSPWVLTAAHCMESS--KLLVLTAGEY 226
Db      1 RIQSSSEANITSPFWQVSLQTRGGRHFGCGSLSPRWVLTAAHCYGSAPSSIRRLAGSH 60

QY      227 DLRRMEKELDLDIKEVEFHPNYSKSTINDIALHLAOPATSSQITVPICLPDSGLAER 286
Db      61 DISSGFEHQ IVAKSKVIYHHPNYSSTYNDIALTLKSLPVLTLSDIVRFLCPSGYNV 118

QY      287 ELNQAQGETLVYMGCHHSREKAKRNRYFLVNFICLPIVPHANCSQWMSN--MTSENML 344
Db      119 ---PACTTCTGVSGWG---RTSSSGSLPDTIDEVNPVIVSNATCRANSGGPAITDML 171

QY      345 CAGILTDRODCDEBSGGCPVVASFHGTWFLVGLVSNGE--GGCLHNPAGVYTKVSEYLDWI 403
Db      172 CAGGELGGKACQADSGCPVLCN--DPRNVLVGLVSNGSYGCAARNKKGYYTTRVSSYLDWI 230

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RESULT 82  
US-10-072-012-812

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; Sequence 812, Application US/10072012
; Publication No. US20040003493A1
;
; GENERAL INFORMATION:
;
; APPLICANT: Tchemnev, Velizar
;
; APPLICANT: Spytek, Kimberly
;
; APPLICANT: zeinusen, Bryan
;
; APPLICANT: Paturzjan, Meera

```

```

Db          172 CAGGEGKACCGSGSGLVGN-DPRWLVGVIVMSGSYGARPKRGVTVRVSSYLDMI 230

RESULT 83
US-10-037-417-135
Sequence 135, Application US/10037417
Publication No. US20040052806A1
GENERAL INFORMATION:
APPLICANT: Kekuda, Ramesh
APPLICANT: Alcobrook II, John P
APPLICANT: Tchernev, Velizar T
APPLICANT: Liu, Xiaohong
APPLICANT: Spytek, Kimberly A
APPLICANT: Patlurajan, Meera
APPLICANT: Grosse, William M
APPLICANT: Lepley, Denise M
APPLICANT: Burgess, Catherine E
APPLICANT: Vermet, Corine A.M.
APPLICANT: Li, Li
APPLICANT: Gorman, Linda
APPLICANT: Edinger, Shlomit R
APPLICANT: Sciore, Paul
APPLICANT: Ellemann, Karen
APPLICANT: Malayanar, Uriel M
APPLICANT: Rothenberg, Mark
APPLICANT: Stone, David J
APPLICANT: Boldog, Ferenc L
APPLICANT: Guo, Xiaojia
APPLICANT: Shenoy, Suresh G
APPLICANT: Anderson, David W
APPLICANT: Padigaru, Murallidhara
APPLICANT: Taupier Jr, Raymond J
APPLICANT: Miller, Charles E
APPLICANT: Eisen, Andrew J
TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same
FILE REFERENCE: 21402-235
CURRENT APPLICATION NUMBER: US/10/037,417
CURRENT FILING DATE: 2002-09-20
PRIOR APPLICATION NUMBER: 60/260,018
PRIOR FILING DATE: 2001-01-05
PRIOR APPLICATION NUMBER: 60/260,360
PRIOR FILING DATE: 2001-01-08
PRIOR APPLICATION NUMBER: 60/272,411
PRIOR FILING DATE: 2001-02-28
PRIOR APPLICATION NUMBER: 60/272,817
PRIOR FILING DATE: 2001-03-02
PRIOR APPLICATION NUMBER: 60/291,186
PRIOR FILING DATE: 2001-05-15
PRIOR APPLICATION NUMBER: 60/303,231
PRIOR FILING DATE: 2001-07-05
PRIOR APPLICATION NUMBER: 60/305,060
PRIOR FILING DATE: 2001-07-12
PRIOR APPLICATION NUMBER: 60/318,405
PRIOR FILING DATE: 2001-09-10
PRIOR APPLICATION NUMBER: 60/318,700
PRIOR FILING DATE: 2001-09-12
NUMBER OF SEQ ID NOS: 227
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 135
LENGTH: 230
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Trypsin-like
OTHER INFORMATION: serine protease Consensus Sequence
US-10-037-417-135

Query Match      21.0%; Score 488.5; DB 12; Length 230;
Best Local Similarity 45.0%; Pred. No. 1.4e-13;
Matches 108; Conservative 32; Mismatches 85; Indels 15; Gaps 7

Oy 169 RLIDSKMRGSDSPQVVTLDSKKKIACGAVLHPNSWVLTAARCMDS--KKILVRAGEY 226
|::||| | ||| : || || | ||||| : | : ||| :
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Db      1  RIVGSGEANIGSPFQWQVSLDYGRGGRHFCGSSLSPRWVLTAAHCYVSAPSSIPVRLASH 60
QY      227  DLRNRMKELDLIDJIKVFVHPNPKSXTDNDIALHLAQPATLSQTVPLCLPDGSLAR 266
Db      61  DLSGERTQ-TYKVSKVIVHPNPNBYDNDIALKLSEPLSLDTPVPCLPSSGYNV- 118
QY      287  ELNAGQETLVYAGWCYSSEKAKRNRTFVNLFIKIPVHPNECEWMEN--MVSENL 344
Db      119  ---PAGTCTVSGMC-----RTSSSGSLPDLGEVNVVPLVSNATCRAYSAGCAPATDML 171
QY      345  CAGTLEADRODACESDSGGPWVASFHGTVPFLVGLVSGCE-GCGLHNTGYTTKYRYLDMT 403
Db      172  CAGGLEGGXADACQGGSGGGLVNCN-DEPRWLVGIYVSGSYGCARPKRGVYTRVSSYLDMI 230

RESULT 84
US-10-032-199-66
Sequence 66, Application US/10032189
Publication No. US20030170630A1
GENERAL INFORMATION:
APPLICANT: Alsbrook II, John P
APPLICANT: Tchenev, Velizar T
APPLICANT: Liu, Xiaohong
APPLICANT: Spytek, Kimberly A
APPLICANT: Zernusen, Bryan D
APPLICANT: Paturajan, Meera
APPLICANT: Grose, William M
APPLICANT: Lepley, Denise M
APPLICANT: Burgees, Catherine E
APPLICANT: Shimkets, Richard A
APPLICANT: Grose, William M
APPLICANT: Szekeres, Edward S
APPLICANT: Vernet, Corine A.M.
APPLICANT: Li, Li
APPLICANT: Casman, Stacie J
APPLICANT: Boldog, Ferenc L
APPLICANT: Gorman, Linda
APPLICANT: Gangoli, Esha A
APPLICANT: Fernandes, Elina R
APPLICANT: Rieger, Daniel K
APPLICANT: Edinger, Shlomit R
APPLICANT: Gunther, Erik
APPLICANT: Miller, Isabelle
APPLICANT: Sciore, Paul
APPLICANT: Ellerman, Karen
APPLICANT: MacDougall, John R
APPLICANT: Smithson, Glenda
TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same
FILE REFERENCE: 21402-228
CURRENT APPLICATION NUMBER: US/10/032,189
PRIOR FILING DATE: 2001-12-21
PRIOR APPLICATION NUMBER: 60/257,495
PRIOR FILING DATE: 2000-12-21
PRIOR APPLICATION NUMBER: 60/258,171
PRIOR FILING DATE: 2000-12-20
PRIOR APPLICATION NUMBER: 60/269,940
PRIOR FILING DATE: 2001-02-20
PRIOR APPLICATION NUMBER: 60/274,192
PRIOR FILING DATE: 2001-03-08
PRIOR APPLICATION NUMBER: 60/277,826
PRIOR FILING DATE: 2001-03-22
PRIOR APPLICATION NUMBER: 60/279,840
PRIOR FILING DATE: 2001-03-29
PRIOR APPLICATION NUMBER: 60/282,981
PRIOR FILING DATE: 2001-04-11
PRIOR APPLICATION NUMBER: 60/283,656
PRIOR FILING DATE: 2001-04-13
PRIOR APPLICATION NUMBER: 60/309,247
PRIOR FILING DATE: 2001-07-31
PRIOR APPLICATION NUMBER: 60/311,754
PRIOR FILING DATE: 2001-08-17
PRIOR APPLICATION NUMBER: 60/313,331
PRIOR FILING DATE: 2001-08-17

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/ NUMBER OF SEQ ID NOS: 260
/ SOFTWARE: Patentin Ver. 2.1
/ SEQ ID NO 66
/ LENGTH: 230
/ TYPE: PRT
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Description of Artificial Sequence: Trypsin-like
US-10-032-189-66
/
Query Match      21.0%; Score 488.5; DB 14; Length 230;
Best Local Similarity 43.0%; Pted. No. 1.4e-33; Indels 15; Gaps 7
Matches 108; Conservative 32; Mismatches 85;
/
Oy      169 RLIDGMATRGDPSMWQVLLIDSKKTLACGAVLLHPSPWVLTAAHQMDES--KLLVRLGEY 226
Db      1 RIVGSEANIGSPFMQSLQYNGRHFQGSLLSPRWVLTAAHCVYSAPSSIRVRLGSH 60
/
Oy      227 DLRREKWEIIDDKEVFEVHPNYSKSTTDNDIALHLHAOPATLSQITVPLCLPDSGLAER 286
Db      61 DLSSGEETQ-TVKSXKVIYHPNPNSTYDNDIALKLSPVTLSDVTRPCLPSSGVNV- 118
/
Oy      287 ELNAGDELTVLVGNGVSHSSKEAKRNRTFVLFNFKIPVYHNECSFMSMN--AWSENML 344
Db      119 ---PAGTTTYSNG---RTSESSGSLPTLDGVNVFVSNATCRRAISGGPALTDNML 171
/
Oy      345 CAGLIDRDACEDDGGSPWVASFFHTFVLVLGVSNGE-CGGLHNTGYTTKYSYLDWI 403
Db      172 CAGGLEGGKDAQGDSGGPIVNC-DPRWLVGVISWGSYGCARBNKGVYTRVSYLDWI 230
/
RESULT 85
US-10-074-978A-221
/ Sequence 221, Application US/10074978A
/ Publication No. US20040010119A1
/ GENERAL INFORMATION:
/ APPLICANT: Leite, Mario
/ APPLICANT: Spytek, Kimberly A
/ APPLICANT: Guo, Xiaojia (Sasha)
/ APPLICANT: Fernandes, Elma
/ APPLICANT: Li, Li
/ APPLICANT: Kekuda, Ramesh
/ APPLICANT: Liu, Xiaohong
/ APPLICANT: Casman, Stacie
/ APPLICANT: Boldog, Ferenc
/ APPLICANT: Paturajan, Meera
/ APPLICANT: Blalock, Angela
/ APPLICANT: Ballinger, Robert
/ APPLICANT: Vernet, Corine
/ APPLICANT: Tchennev, Velizar T
/ APPLICANT: Malysankar, Driel M
/ APPLICANT: Gusev, Vladimir
/ APPLICANT: Rastelli, Luca
/ APPLICANT: Mezes, Peter S
/ APPLICANT: Ellerman, Karen
/ APPLICANT: Heyes, Melvin P
/ APPLICANT: Herman, John
/ APPLICANT: Pena, Carol E A
/ APPLICANT: Shimkets, Richard A
/ APPLICANT: Taupier Jr, Raymond J
/ APPLICANT: Moore, No. US20040010119A111e
/ APPLICANT: Shenoy, Suresh
/ APPLICANT: Edinger, Shiomit
/ APPLICANT: Gunther, Erik
/ APPLICANT: Stone, Dave
/ APPLICANT: Miller, Isabelle
/ APPLICANT: Peyman, John
/ APPLICANT: Smithson, Glenda
/ TITLE OF INVENTION: NOVEL PROTEINS AND NUCLEIC ACIDS ENCODING SAME
/ FILE REFERENCE: 21402-269
/ CURRENT APPLICATION NUMBER: US/10/074,978A
/ CURRENT FILING DATE: 2003-01-07
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PRIOR APPLICATION NUMBER: 60/268,221  
PRIOR FILING DATE: 2001-02-12  
PRIOR APPLICATION NUMBER: 60/335,109  
PRIOR FILING DATE: 2001-10-31  
PRIOR APPLICATION NUMBER: 60/312,284  
PRIOR FILING DATE: 2001-08-14  
PRIOR APPLICATION NUMBER: 60/268,496  
PRIOR FILING DATE: 2001-02-13  
PRIOR APPLICATION NUMBER: 60/276,703  
PRIOR FILING DATE: 2001-03-16  
PRIOR APPLICATION NUMBER: 60/330,293  
PRIOR FILING DATE: 2001-10-18  
PRIOR APPLICATION NUMBER: 60/322,127  
PRIOR FILING DATE: 2001-11-21  
PRIOR APPLICATION NUMBER: 60/280,899  
PRIOR FILING DATE: 2001-04-02  
PRIOR APPLICATION NUMBER: 60/310,797  
PRIOR FILING DATE: 2001-08-08  
PRIOR APPLICATION NUMBER: 60/268,646  
PRIOR FILING DATE: 2001-02-14  
Remaining Prior Application data removed - See File Wrapper or PALM.  
NUMBER OF SEQ ID NOS: 547  
SOFTWARE: PatentIn Ver. 2.1  
SEQ ID NO 221  
LENGTH: 230  
TYPE: PRT  
ORGANISM: Artificial Sequence  
FEATURE:  
OTHER INFORMATION: serine protease domain sequence  
US-10-074-978A-221

Query Match 21.0%; Score 488.5; DB 15; Length 230;  
Best Local Similarity 45.0%; Pred. No. 1,4e-33;  
Matches 108; Conservative 32; Mismatches 85; Indels 15; Gaps 7;

QY 169 RLIDGKMTRRGDSPPQVVLIDSKKCLACGAVLIHPSWVLTAAHQMDES--KGLVRLGEY 226  
DB 1 RIVGSEANIGSPFPQVSLQYRGGRHFCGSLSPRWVLTAAHCYGSAPSSIRVLGSH 60  
QY 227 DIRRWEKELDLIDKEVFNPNYSKSTTDNDIALHLAQPATLSQTIIVPICLPSGIAER 286  
DB 61 DLSSGEFTQ-TVKYSKIYHNPYNSTYDNDIALKLSEPTVLTSDVRBICLPSGYNV- 118  
QY 287 ELNQAQGETLVYMGVSHSSREKAKRRTFVNLFIKIPVYHNECSWMSN--WVSENM 344  
DB 119 ---PAGITCTVSGWG---RTSESSGSLPDTLQEVNVPVSNATCRAYSGGPAITNDML 171  
QY 345 CAGILGRDADCEGDSGPMVASFHGTWFLVIGVSGE-GCGLIHNYGVYTVKVSRYLDWI 403  
DB 172 CAGILEGGKDACQDSGGLVNCN-DPRNVLVGIIVSGSYGCARPNKRGVYTVKVSRYLDWI 230

RESULT 86  
US-10-074-978A-222

Sequence 222, Application US/10074978A  
Publication No. US20040010119A1  
GENERAL INFORMATION:  
APPLICANT: Leite, Mario  
APPLICANT: Spytek, Kimberly A  
APPLICANT: Guo, Xiaojia (Sasha)  
APPLICANT: Fernandes, Elma  
APPLICANT: Li, Li  
APPLICANT: Kekuda, Ramesh  
APPLICANT: Liu, Xiaohong  
APPLICANT: Casman, Stacie  
APPLICANT: Boldog, Ferenc  
APPLICANT: Patuturajan, Meera  
APPLICANT: Blalock, Angela  
APPLICANT: Ballinger, Robert  
APPLICANT: Verneet, Corine  
APPLICANT: Tchernev, Velizar T  
APPLICANT: Malyankar, Uriel M

APPLICANT: Gusev, Vladimir  
APPLICANT: Rastelli, Luca  
APPLICANT: Mezes, Peter S  
APPLICANT: Ellermeier, Karen  
APPLICANT: Heyes, Melvin P  
APPLICANT: Herrman, John  
APPLICANT: Pena, Carol E A  
APPLICANT: Shinkets, Richard A  
APPLICANT: Taupier Jr, Raymond J  
APPLICANT: Moore, No. US20040010119A1111e  
APPLICANT: Shenoy, Suresh  
APPLICANT: Edinger, Shlomit  
APPLICANT: Gunther, Erik  
APPLICANT: Stone, Dave  
APPLICANT: Miller, Isabelle  
APPLICANT: Peyman, John  
APPLICANT: Smithson, Glenda  
TITLE OF INVENTION: NOVEL PROTEINS AND NUCLEIC ACIDS ENCODING SAME  
FILE REFERENCE: 21402-269  
CURRENT APPLICATION NUMBER: US/10/074,978A  
PRIOR APPLICATION NUMBER: 60/268,221  
PRIOR FILING DATE: 2001-02-12  
PRIOR APPLICATION NUMBER: 60/335,109  
PRIOR FILING DATE: 2001-10-31  
PRIOR APPLICATION NUMBER: 60/312,284  
PRIOR FILING DATE: 2001-08-14  
PRIOR APPLICATION NUMBER: 60/268,496  
PRIOR FILING DATE: 2001-02-13  
PRIOR APPLICATION NUMBER: 60/276,703  
PRIOR FILING DATE: 2001-03-16  
PRIOR APPLICATION NUMBER: 60/330,293  
PRIOR FILING DATE: 2001-10-18  
PRIOR APPLICATION NUMBER: 60/322,127  
PRIOR FILING DATE: 2001-11-21  
PRIOR APPLICATION NUMBER: 60/280,899  
PRIOR FILING DATE: 2001-04-02  
PRIOR APPLICATION NUMBER: 60/310,797  
PRIOR FILING DATE: 2001-08-08  
PRIOR APPLICATION NUMBER: 60/268,646  
PRIOR FILING DATE: 2001-02-14  
Remaining Prior Application data removed - See File Wrapper or PALM.  
NUMBER OF SEQ ID NOS: 547  
SOFTWARE: PatentIn Ver. 2.1  
SEQ ID NO 222  
LENGTH: 230  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-074-978A-222

Query Match 21.0%; Score 488.5; DB 15; Length 230;  
Best Local Similarity 45.0%; Pred. No. 1,4e-33;  
Matches 108; Conservative 32; Mismatches 85; Indels 15; Gaps 7;

QY 169 RLIDGKMTRRGDSPPQVVLIDSKKCLACGAVLIHPSWVLTAAHQMDES--KGLVRLGEY 226  
DB 1 RIVGSEANIGSPFPQVSLQYRGGRHFCGSLSPRWVLTAAHCYGSAPSSIRVLGSH 60  
QY 227 DIRRWEKELDLIDKEVFNPNYSKSTTDNDIALHLAQPATLSQTIIVPICLPSGIAER 286  
DB 61 DLSSGEFTQ-TVKYSKIYHNPYNSTYDNDIALKLSEPTVLTSDVRBICLPSGYNV- 118  
QY 287 ELNQAQGETLVYMGVSHSSREKAKRRTFVNLFIKIPVYHNECSWMSN--WVSENM 344  
DB 119 ---PAGITCTVSGWG---RTSESSGSLPDTLQEVNVPVSNATCRAYSGGPAITNDML 171  
QY 345 CAGILGRDADCEGDSGPMVASFHGTWFLVIGVSGE-GCGLIHNYGVYTVKVSRYLDWI 403  
DB 172 CAGILEGGKDACQDSGGLVNCN-DPRNVLVGIIVSGSYGCARPNKRGVYTVKVSRYLDWI 230

RESULT 87  
US-10-055-569A-96

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Sequence 96, Application US/10055569A
Publication No. US20040024181A1
GENERAL INFORMATION:
APPLICANT: Gangoli, Esha A
APPLICANT: Spytek, Kimberly A
APPLICANT: Gilbert, Jennifer
APPLICANT: Casman, Stacie
APPLICANT: Blalock, Angela
APPLICANT: Li, Li
APPLICANT: Vernet, Corine
APPLICANT: Shenoy, Suresh
APPLICANT: Mishra, Vishnu S
APPLICANT: Futrak, Katarzyna
APPLICANT: Gerlach, Valerie L
APPLICANT: Edinger, Shlomit
APPLICANT: Malyanekar, Uriel
APPLICANT: Stone, David
APPLICANT: Millet, Isabelle
APPLICANT: Smithson, Glenda
APPLICANT: Gunther, Erik
APPLICANT: Ellerman, Karen
APPLICANT: Padigaru, Muralidhara
APPLICANT: Taupier Jr., Raymond J
APPLICANT: Anderson, David W
TITLE OF INVENTION: Methods of Using the Same
FILE REFERENCE: 21402-193
CURRENT APPLICATION NUMBER: US/10/055,569A
PRIOR FILING DATE: 2001-10-26
PRIOR APPLICATION NUMBER: 60/243,642
PRIOR FILING DATE: 2000-10-26
PRIOR APPLICATION NUMBER: 60/243,320
PRIOR FILING DATE: 2000-10-26
PRIOR APPLICATION NUMBER: 60/243,592
PRIOR FILING DATE: 2000-10-26
PRIOR APPLICATION NUMBER: 60/243,681
PRIOR FILING DATE: 2000-10-27
PRIOR APPLICATION NUMBER: 60/243,863
PRIOR FILING DATE: 2000-10-27
PRIOR APPLICATION NUMBER: 60/244,443
PRIOR FILING DATE: 2000-10-31
PRIOR APPLICATION NUMBER: 60/245,029
PRIOR FILING DATE: 2000-11-01
PRIOR APPLICATION NUMBER: 60/244,995
PRIOR FILING DATE: 2000-11-01
PRIOR APPLICATION NUMBER: 60/245,293
PRIOR FILING DATE: 2000-11-02
PRIOR APPLICATION NUMBER: 60/245,315
PRIOR FILING DATE: 2000-11-02
Remaining Prior Application data removed - See File Wrapper or PALM.
NUMBER OF SEQ ID NOS: 137
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 96
LENGTH: 230
TYPE: PRT
ORGANISM: Homo sapiens
US-10-055-569A-96

Query Match      21.0%; Score 488.5; DB 16; Length 230;
Best Local Similarity 45.0%; Pred. No. 1,4e-33;
Matches 108; Conservative 32; Mismatches 85; Indels 15; Gaps 7;
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345 CAGIIGDRQACGDSGSGPMVASFHGTWPLVGLVSGE-GGGLHANYGYTKVSRILDMI 403
172 CAGGLEGGKACQCGDSGGLVON-DPRNVLTGVLSGSGYGCARRNKGQVTRVSYLDMI 230
Db

RESULT 88
US-10-051-874-101
Sequence 101, Application US/10051874
Publication No. US2004005557A1
GENERAL INFORMATION:
APPLICANT: Padigaru, Muralidhara
APPLICANT: Alsobrook II, John P
APPLICANT: Coleman, Steven D
APPLICANT: Spytek, Kimberly A
APPLICANT: Boldog, Ferenc AM
APPLICANT: Vernet, Corine
APPLICANT: Li, Li
APPLICANT: Shenoy, Suresh G
APPLICANT: Casman, Stacie J
APPLICANT: Guo, Xiaojia Sasha
APPLICANT: Edinger, Shlomit R
APPLICANT: MacDougall, John R
APPLICANT: Malyanekar, Uriel M
APPLICANT: Patlurajan, Meera
APPLICANT: Shinkets, Richard A
APPLICANT: Pena, Carol BA
APPLICANT: Tohernev, Velizar T
APPLICANT: Zethusen, Bryan D
APPLICANT: Millet, Isabelle
APPLICANT: Miller, Charles E
APPLICANT: Lepley, Denise M
APPLICANT: Smithson, Glenda
APPLICANT: Baumgartner, Jason C
APPLICANT: Herrman, John L
APPLICANT: Peyman, John A
APPLICANT: Gorman, Linda
APPLICANT: Mezes, Peter D
APPLICANT: Kekuda, Ramesh
APPLICANT: Taupier Jr., Raymond J
APPLICANT: Gerlach, Valerie
APPLICANT: Grose, William M
APPLICANT: Liu, Xiaohong
APPLICANT: Ellerman, Karen
APPLICANT: Rothenberg, Mark
APPLICANT: Stone, David J
APPLICANT: Burgess, Catherine E
TITLE OF INVENTION: PROTEINS, POLYNUCLEOTIDES ENCODING THEM AND METHODS OF
FILE REFERENCE: 21402-245
CURRENT APPLICATION NUMBER: US/10/051,874
PRIOR FILING DATE: 2002-09-25
PRIOR APPLICATION NUMBER: 60/268,595
PRIOR FILING DATE: 2001-02-14
PRIOR APPLICATION NUMBER: 60/325,306
PRIOR FILING DATE: 2001-09-27
PRIOR APPLICATION NUMBER: 60/262,587
PRIOR FILING DATE: 2001-01-18
PRIOR APPLICATION NUMBER: 60/272,409
PRIOR FILING DATE: 2001-02-28
PRIOR APPLICATION NUMBER: 60/262,454
PRIOR FILING DATE: 2001-01-18
PRIOR APPLICATION NUMBER: 60/276,777
PRIOR FILING DATE: 2001-03-16
PRIOR APPLICATION NUMBER: 60/291,672
PRIOR FILING DATE: 2001-05-17
PRIOR APPLICATION NUMBER: 60/330,336
PRIOR FILING DATE: 2001-10-18
PRIOR APPLICATION NUMBER: 60/265,530
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/261,376
PRIOR FILING DATE: 2001-01-16
NUMBER OF SEQ ID NOS: 269
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[illegible]

Query Match	Similarity	20.4%	Score 474	DB 10	Length 658
Best Local	Similarity	33.3%	Pred. No. 9e-32		
Matches	125	Conservative	52	Mismatches	144
				Indels	54
				Gaps	18
QY	58	PCAS--LCCGHCYTCI--DGISFSCDRSGWEGRCQREVSFLNCSLNGSCTHYCLEE	112		
Db	304	PCPGPFLCSYNGLCVPAACDGVK---DQPNGLDRRCVCVRATF-QCKEDS---TCISLPR	355		
QY	113	VCMKRCSCAGYKGLDOLLQCHPAYKFCQPMKWEKKKSHLK-----DPTL	160		
Db	356	V---CDGQDCLNSDEBQOQBGV--PCGFTFPQOE--DRSCVKKPNPQCDRPRCDGS	408		
QY	161	DOE-----DOYDPLIDIKMTTRGDSFMQVVLNLSKKKLAOGALIHPSWYLTAACMD	214		
Db	409	DEHEGECGLGQSSSLIVOGAVSSSEGEWPMQ--ASLQVRGHHICGALLADRWYITAAECQ	467		
QY	215	ESKKLVLEIGEYDLRR-WE-KM--ELDLIDKEVFNHNPYSKSTDDIALMLHAQRAVL	269		
Db	468	EDSMASFLVLTWVFLGLKWNQNSRWPGEVSPFKYSRLHLHPYHEDSHDYVALQLDHPVRR	527		
QY	270	SOITVPLCLDPSGLMERLINAQGETLVYMGYSNSESKEAKRRNPTFLVFIKIPVPPN	329		
Db	528	SAANVPCLP---ARSLFFPGLHCHMITGNG--ALREGGPSLN--ALOKYDVQLIQD	578		
QY	330	ECSEYSNMVSENMLCAGILLDRQDACEGDSGGGPMVA-SFHOTVLEVLVSMGEGCGLH	368		
Db	579	LCSEVYLYQYTPRLMLCAGYRKAKKDACQGDGGGPIVCKALSGRWFLAGLIVSMGLCGRPN	638		
QY	389	NYGVATTKSKRYLDMT	403		

; TITLE OF INVENTION: TRANSMEMBRANE SERINE PROTEASIS, THE ENCODED PROTEINS AND  
; METHODS BASED THEREON  
; TITLE OF INVENTION: METHODS BASED THEREON

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; SOFTWARE: FASBSEQ FOR WINDOWS VERSION 1.0
; SEQ ID NO 8

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LENGTH: 802  
 TYPE: PRT  
 ORGANISM: Homo Sapien  
 US-10-156-214A-8

Query Match 20.4%; Score 474; DB 15; Length 802;  
 Best Local Similarity 33.3%; Pred. No. 1,2e-31;  
 Matches 125; Conservative 52; Mismatches 144; Indels 54; Gaps 18;

QY 58 PCAS--LCCGHTCT---DGISFSCDCRSGMEGRFCQREVSFLNCSLNDGGCTHYCLEE 112  
 DB 448 PCPEFLCSVNGLCVPAACDGVK---DCPNGLDERNCVCATF-QCKEDS---TCLSLPK 499  
 QY 113 VGNRRCGAPGKRLDLDLQCHPAVKFPGGRPMKMKRSHLK-----RDTE 160  
 DB 500 V---CDGPDFCLNSDEEQOQEGV---PCGFTTQCE-DSCVKNPQCDGRPDCKDS 552  
 QY 161 DOE-----DQVDFLIDGKTRRGDSPMQVVLDSKKKLAGAVLIHPSWLTAAHAMD 214  
 DB 553 DEHCRCGLQSPSSKIVGAVSSEGEWPMQ-ASLQVGRHICGALIDRWVITAAHCFQ 611  
 QY 215 ESKKLAVRLGEYDLR-WE--KM--ELDIDKEVPHNYSKSTTDNDIALHLAQPAL 269  
 DB 612 EDMSASTVMTVFLGKWQNSRWPGEVSFKYSRLILHPHEDSHDYVALLQLDHPYR 671  
 QY 270 SQTIVPLCPDSGLAERELNAGQETLVNMGVSHSEKAKRNRTFVNLKIPVPHN 329  
 DB 672 SAARFVCLP---ARSHFEPGLHCTWGMG--ALNEGSPIN--ALQKVYQLIPQD 722  
 QY 330 ECSEVMSNMVSNMILCAGILGDRQDACEGDSGSPVVA-SFHGTWFLVGVSGCGCLAH 388  
 DB 723 LCSEVRYQVYTRMLCAGYRKKKDACCDSGLPIVCKALSGWFLAGLVWGLGCGRPY 782  
 QY 389 NYGVYTKVSRYLDMT 403  
 DB 783 YFGVYTRITGVISWI 797

## RESULT 94

US-10-600-187-7  
 ; Sequence 7, Application US/10600187  
 ; Publication No. US20040086910A1  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Tanimoto, Timothy J.  
 ; TITLE OF INVENTION: TADG-15: An Extracellular Serine Protease  
 ; FILE REFERENCE: D6064CIP/D  
 ; CURRENT APPLICATION NUMBER: US/10/600,187  
 ; CURRENT FILING DATE: 2003-06-20  
 ; PRIOR APPLICATION NUMBER: US/09/654,600A  
 ; PRIOR FILING DATE: 2000-09-01  
 ; PRIOR APPLICATION NUMBER: 09/421,213  
 ; 09/027,337  
 ; PRIOR FILING DATE: 1999-10-20  
 ; 1998-02-20  
 ; NUMBER OF SEQ ID NOS: 98  
 ; SEQ ID NO 7  
 ; LENGTH: 255  
 ; TYPE: PRT  
 ; ORGANISM: Homo sapiens  
 ; FEATURE:  
 ; OTHER INFORMATION: Factor 7  
 US-10-600-187-7

Query Match 20.4%; Score 473.5; DB 16; Length 255;  
 Best Local Similarity 37.9%; Pred. No. 3.1e-32;  
 Matches 96; Conservative 52; Mismatches 90; Indels 15; Gaps 5;

QY 169 RLIDDKTRRGDSPMQVVLDSKKKLAGAVLIHPSWLTAAHAMDSSK---KLIVRGE 225  
 DB 1 RIVGKVCPCGKBCPMQVLLVNGAQL-CGGTLITNITWVSAHCFDKIKMRNLIIVLGE 59

QY 226 YDLRMEKELDLIDKEVFPVHNSKSTTDNDIALHLAQPALSGTIVPLCPDSGLAE 285  
 DB 60 HDLSEHDEGQRRRAQVYIIPSTYVGTGNNHDIALRHQPVLTGVHVLCLPERFSE 119  
 QY 286 RELNQAQETLVYMGVSHSEKAKRNRTFVNLKIPVPHNEGEVW-----SNVVS 340  
 DB 120 RLAFV-RFVSISGNGQLDRGATA-----LEIMLVNPLMLTQDLQOSRVGDSPNIT 173  
 QY 341 ENMLCAGILADNDQACEGDSGSPVVASFHGTWFLVGVSGCGLLHNYGYTKVSRYL 400  
 DB 174 EYMFCAQYSDGSKDCKDSGPPATHYRGTWYLTGVSMQCATVGHFVYTKVSYI 233  
 QY 401 DWIHGIRDEKAP 413  
 DB 234 EYLQKLRSEPR 246

## RESULT 95

US-10-172-712-28  
 ; Sequence 28, Application US/10172712  
 ; Publication No. US20030125232A1  
 ; GENERAL INFORMATION:  
 ; APPLICANT: GRIFFIN, JOHN H.  
 ; APPLICANT: GALE, ANDREW J.  
 ; APPLICANT: GETZOFF, ELIZABETH D.  
 ; APPLICANT: PELLEGUER, JEAN-LUC  
 ; TITLE OF INVENTION: STABILIZED PROTEINS WITH ENGINEERED DISULFIDE BONDS  
 ; FILE REFERENCE: 4198-4001US1  
 ; CURRENT APPLICATION NUMBER: US/10/172,712  
 ; CURRENT FILING DATE: 2002-09-30  
 ; PRIOR APPLICATION NUMBER: 60/298,578  
 ; PRIOR FILING DATE: 2001-06-14  
 ; NUMBER OF SEQ ID NOS: 32  
 ; SOFTWARE: PatentIn Ver. 2.1  
 ; SEQ ID NO 28  
 ; LENGTH: 655  
 ; TYPE: PRT  
 ; ORGANISM: Homo sapiens  
 US-10-172-712-28

Query Match 20.4%; Score 473.5; DB 14; Length 655;  
 Best Local Similarity 28.3%; Pred. No. 9.9e-32;  
 Matches 141; Conservative 58; Mismatches 168; Indels 131; Gaps 18;

QY 15 RCTEELCDPEAKELFQNVDPDLAFMSKAVDQCL-----VPLEHPQASIC 63  
 DB 195 KOCGEKCFDETRRYBLEGDNRARVQGVHDEGCEFGRTMGSTHNTCLSSPLN-- 252  
 QY 64 CQHGTG--IDGIGSFSCDCRSGMEGRFCQREVSFLNCSLNDG----- 103  
 DB 253 --GGTCHLIVATGTYVACAPPGFAGRLCNLEPD-ERCFAGNGTGRGVASTASGLSCLA 309  
 QY 104 -----GCTHYCL-----EYGVW-----RSCSC 120  
 DB 310 WMSDLIYQELHVDVGAAMAILLGPALICRNPNDRPMPCYVVDKALSMETGLACES 369  
 QY 121 APGYKLDLIDQCHPAVKFPCGRPMKMEKRSKSLRDEDOEDQVDRLLIDKTRRGD 180  
 DB 370 LTRVQLSDPLDALTRPASPGRQACGRHKKRTFLR-----PRILGSSSLPS 418  
 QY 181 SPW--QVVLDSKKKLAGAVLIHPSWLTAAHAMDSSK---KLIVRGE 225  
 DB 419 HPWLAIIYIGDS-----FCAGSLVHTCWVVASAHCFSHSPRDSVVLVGGHFNRTTDTV 474  
 QY 236 LDDIDKEVFPVHNSK-STTDNDIALHLAQP-----ATLSQTVPLCPDSGLAERELN 290  
 DB 475 QTGIEKTIPTLYSVNPSDHDVLILKKGRKCHTSQVQVPLCPBERG-----STFP 530  
 QY 291 AQOETLVYMGV-----HSSREKAKRNRTFVNLKIPVPHNECS--EYMSNVSE 341  
 DB 531 AGKQCIAGWGHLDENVSGVSSSLRDA-----LVPLVADHKCSSPEYVYADISP 579  
 QY 342 NMLCAGILADNDQACEGDSGSPVVASFHGTWFLVGVSGCGLLHNYGYTKVSRYL 401

Db 580 NMLCAGYFCKSDACQSGSGGAGLACERKNAVATLITISWGGGRLHPRGYITVAVNTVD 639  
Qy 402 WIGHIRDKAPQKSMAP 419  
Db 640 WINDRIR---PPRLVAP 654

RESULT 96  
US-09-888-615-113  
; Sequence 113, Application US/09888615  
; Patent No. US20020064856A1  
; GENERAL INFORMATION:  
; APPLICANT: PLOWMAN, GREGORY  
; APPLICANT: WAYTE, DAVID  
; APPLICANT: CAENEPEL, SEAN  
; APPLICANT: CHARVOCZAK, GLEN  
; APPLICANT: MANNING, GERRARD  
; APPLICANT: SUDARSANAM, SUCHA  
; TITLE OF INVENTION: NOVEL PROTEASES  
; FILE REFERENCE: 038602/1214  
; CURRENT APPLICATION NUMBER: US/09/888, 615  
; CURRENT FILING DATE: 2001-06-26  
; PRIOR APPLICATION NUMBER: 60/214,047  
; PRIOR FILING DATE: 2000-06-26  
; NUMBER OF SEQ ID NOS: 150  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 113  
; LENGTH: 802  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-09-888-615-113

Query Match 20.2%; Score 470; DB 9; Length 802;  
Best local similarity 33.1%; Pred. No. 2,5e-31;  
Matches 144; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

Qy 58 PCAS--LCCGHTCI---DGIGSFCCCRSGWGRPCQREVSPFNGSLDNGGCTHYCEE 112  
Db 448 PCGSEFLCSVNGLCVPACDGVK---DPMGLDERNCVCRATF-QCKEDS---TCLSLPK 499  
Qy 113 VGMRCSCAPGYKLGDDLLQCHPAVKPCRPKREKKRSHLK-----RDTE 160  
Db 500 V-----CDGQPCDCLNGSDEQCQEGV--PCGTFPQCE-DRCGVKKPQQCDGSPDCRDGS 552  
Qy 161 DGE-----DQVPRLLDGMTRRDSFMQVILLDSKTLACGAVLHPGWTAAHGM 214  
Db 553 DEHDCDGLQGPSSRIYGAIVSSBGEWFO-ASLQVRGHI CGALLADRWVITAAHCFQ 611  
Qy 215 ESKULLVRLAGEYDLR--WE--ELDLIXEVFHPVYSKSTTENDIALHLAQPATL 269  
Db 612 EDSMASTVLTWVFLGKWKQNSRPEVSPFKSKLLHHPHEHSDHYDVALQLDHPVR 671  
Qy 270 SQTIVPICLDPSGLAEREINQAGETIVTGWGHSSREKAKRNTFVNLFTIIPVPHN 329  
Db 672 SAIVRVCIP---ARSHFEPEGLCWITGWG--ALREGGPIISN---ALQKVVDLLIPD 722  
Qy 330 ECEGEMSNVSENNLCKGLISGRDAGSGDGSGPMVA-SFHGTWLVGLVWMEGGGLH 388  
Db 723 LCSEAVRYQVTPRMLCGYKKGKQDCGSDSGGLVCKALSGRWPLAGLVSKGLCGGRPN 782  
Qy 389 NYGVYTKVSRYLDMT 403  
Db 783 YPGVYTRIRINGVISWI 797

RESULT 97  
US-09-978-295A-169

; Sequence 169, Application US/09978295A  
; Patent No. US2002015606A1  
; GENERAL INFORMATION:  
; APPLICANT: Ashkenazi, Avi  
; APPLICANT: Baker Kevin P.

; APPLICANT: Botstein, David  
; APPLICANT: Deenoyers, Luc  
; APPLICANT: Eaton, Dan  
; APPLICANT: Ferrara, Napoleon  
; APPLICANT: Filvaroff, Ellen  
; APPLICANT: Fong, Sherman  
; APPLICANT: Gao, Wei-Qiang  
; APPLICANT: Gerber, Hanspeter  
; APPLICANT: Gerlitsen, Mary E.  
; APPLICANT: Goddard, Audrey  
; APPLICANT: Godowski, Paul J.  
; APPLICANT: Grimaldi, J. Christopher  
; APPLICANT: Gunney, Austin L.  
; APPLICANT: Hillan, Kenneth J.  
; APPLICANT: Kljavin, Ivar J.  
; APPLICANT: Kuo, Sophia S.  
; APPLICANT: Napier, Mary A.  
; APPLICANT: Pan, James J.  
; APPLICANT: Paoni, Nicholas F.  
; APPLICANT: Roy, Margaret Ann  
; APPLICANT: Shelton, David L.  
; APPLICANT: Stewart, Timothy A.  
; APPLICANT: Thomas, Daniel  
; APPLICANT: Williams, P. Mickey  
; APPLICANT: Wood, William I.  
; TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
; FILE REFERENCE: P2630P1C11  
; CURRENT APPLICATION NUMBER: US/09/978,295A  
; CURRENT FILING DATE: 2001-10-15  
; PRIOR APPLICATION NUMBER: 09/918585  
; PRIOR FILING DATE: 2001-07-30  
; PRIOR APPLICATION NUMBER: 60/062250  
; PRIOR FILING DATE: 1997-10-17  
; PRIOR APPLICATION NUMBER: 60/064249  
; PRIOR FILING DATE: 1997-11-03  
; PRIOR APPLICATION NUMBER: 60/065311  
; PRIOR FILING DATE: 1997-11-13  
; PRIOR APPLICATION NUMBER: 60/066364  
; PRIOR FILING DATE: 1997-11-21  
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QY 330 EGSFVSNMYSNMICAGTIGCBODACBDSGGMVA-SFHGTWFLVGLVSGGGLH 388  
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RESULT 98  
US-09-978-697-169  
Sequence 169, Application US/09978697  
Patent No. US20020169284A1  
GENERAL INFORMATION:  
APPLICANT: Ashkenazi, Avi  
APPLICANT: Baker Kevin P.  
APPLICANT: Botstein, David  
APPLICANT: Desnoyers, Luc  
APPLICANT: Eaton, Dan  
APPLICANT: Ferrara, Napoleon  
APPLICANT: Filvaroff, Ellen  
APPLICANT: Fong, Sherman  
APPLICANT: Gao, Wei-Qiang  
APPLICANT: Gerber, Hanspeter  
APPLICANT: Gerritsen, Mary E.  
APPLICANT: Goddard, Audrey  
APPLICANT: Godowski, Paul J.  
APPLICANT: Grimaldi, J. Christopher  
APPLICANT: Gurney, Austin L.  
APPLICANT: Hillan, Kenneth J.  
APPLICANT: Kijavitt, Ivair J.  
APPLICANT: Kuo, Sophia S.  
APPLICANT: Napier, Mary A.  
APPLICANT: Pan, James;  
APPLICANT: Paoni, Nicholas F.  
APPLICANT: Roy, Margaret Ann  
APPLICANT: Shelton, David L.  
APPLICANT: Stewart, Timothy A.  
APPLICANT: Thomas, Daniel  
APPLICANT: Williams, P. Mickey  
APPLICANT: Wood, William I.  
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
TITLE OF INVENTION: Acids Encoding the Same  
FILE REFERENCE: P2630PIC27  
CURRENT APPLICATION NUMBER: US/09/978, 697  
CURRENT FILING DATE: 2001-10-16  
PRIOR APPLICATION NUMBER: 09/918585  
PRIOR FILING DATE: 2001-07-30  
PRIOR APPLICATION NUMBER: 60/062250  
PRIOR FILING DATE: 1997-10-17  
PRIOR APPLICATION NUMBER: 60/064249  
PRIOR FILING DATE: 1997-11-03  
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PRIOR FILING DATE: 1997-11-13  
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PRIOR FILING DATE: 1998-04-22  
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PRIOR FILING DATE: 1998-04-22  
PRIOR APPLICATION NUMBER: 60/082796

Qx

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      33.1%   Pred.No.2.5e-31;
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QY      113  VGRRCSCAPGKIGADDLQCHPAVYKPCRPMKMEKKGRSHLK-----RDTE 160
Db      500  V-----CDGQPCDLNGSHEBQCEGV--PCSTFTFQCE-DRECVKPPCCDGRPCRGSS 552
QY      161  DOE-----DQVDRPLDGMTRRCDSPQOVVLLDSKKKLACGAVLIHESWVLTAAHCMD 214
Db      553  DEHCDCGCGIGPSSRIYGVANVSBEQEMWQ-ASLQVRGRHICGGAALLARWVITAAHCFQ 611
QY      215  ESKKLLVRIGEYDIR-WK-KW-ELDDIKVFNHPNYSKSTTDNDIALHLAQPLT 265
Db      612  EDMSATVLTWVFLVFGKQWQNSRMPQEVSFVKSRLILHPYHEBDSHDVALLQLHPVVR 671
QY      270  SQIVTICLPDGLAEELNQGQETLVYTGWGYHSSREKAKRRRTVLIPIKIPVEPHN 329
Db      672  SAARFVPLCP-----ASHFFEPQLHCWTTWG--ALREGRPSN--ALQXVDVLIQD 722
QY      330  ECSEFVSNVSNVSNMILCAGILGRDQACGDSGGGPMVA-SFHCWTFVLGVSVGGCGCLH 388
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QY      389  NYGYTKVYSRLIDM 403
Db      783  YEGYTRITGVISW 797

RESULT 99
US-09-978-192A-169
Sequence 169, Application US/09978192A
Patent No. US2002017753A1
GENERAL INFORMATION:
APPLICANT: Ashkenazi, Avi
APPLICANT: Baker Kevin P.
APPLICANT: Bakstein, David
APPLICANT: Deenoyers, Luc
APPLICANT: Batou, Dan
APPLICANT: Ferrara, Napoleone
APPLICANT: Filvaroff, Ellen
APPLICANT: Fong, Sherman
APPLICANT: Gao, Wei-Qiang
APPLICANT: Gerber, Hanspeter
APPLICANT: Gerritsen, Mary E.
APPLICANT: Goddard, Audrey U.
APPLICANT: Godowski, Paul U.
APPLICANT: Grimaldi, J. Christopher
APPLICANT: Gurney, Austin L.
APPLICANT: Hillan, Kenneth J
APPLICANT: Kljavin, Ivar J.
APPLICANT: Kuo, Sophia S.
APPLICANT: Napier, Mary A.
APPLICANT: Pan, James
APPLICANT: Paonli, Nicholas F.
APPLICANT: Roy, Margaret Ann
APPLICANT: Shelton, David L.
APPLICANT: Stewart, Timothy A.
APPLICANT: Tunes, Daniel
APPLICANT: Williams, P. Mickey
APPLICANT: Wood, William I.
TITLE OF INVENTION: Acids and Transmembrane Polypeptides and Nucleic
TITLE OF INVENTION: Acids Encoding the Same
FILE REFERENCE: P2630P169
CURRENT APPLICATION NUMBER: US/09/978, 192A
CURRENT FILING DATE: 2001-10-15
PRIOR APPLICATION NUMBER: 09/918585
PRIOR FILING DATE: 2001-07-30
PRIOR APPLICATION NUMBER: 60/062250
PRIOR FILING DATE: 1997-10-17
PRIOR APPLICATION NUMBER: 60/064249
PRIOR FILING DATE: 1997-11-03
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PRIOR FILING DATE: 1997-11-13
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; PRIOR APPLICATION NUMBER: 60/085697

Query Match      20.2%; Score 470; DB 9; Length 802;
Best Local Similarity 33.1%; Pred. No. 2.5e-31;
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

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QY 161 DOE-----DQVDPRLIDGKTRRGDSPMQVVLIDSKKXLAGVLIHPMVLTAAHCWD 214
DB 553 DEHPCDCGLQGPSSRIYGVAVSBEQWPMQ--ASLQVRGHHIGGALLADRMTVTAHCQ 611
QY 215 ESKKLLVRLGEYDLR--WE--KW--ELDLIKEYVHPNYSSTTNDIALHLAOPATL 269
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; Sequence 169, Application US/0999832A
; Publication No. US20020192706A1
; GENERAL INFORMATION:
; APPLICANT: Ashkenazi, Avi
; APPLICANT: Baker, Kevin P.
; APPLICANT: Botstein, David
; APPLICANT: Deenoyers, Luc
; APPLICANT: Eaton, Dan
; APPLICANT: Ferrara, Napoleon
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; APPLICANT: Fong, Sherman
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; APPLICANT: Napier, Mary A.
; APPLICANT: Pan, James J.
; APPLICANT: Paoni, Nicholas F.
; APPLICANT: Roy, Margaret Ann
; APPLICANT: Shelton, David L.
; APPLICANT: Stewart, Timothy A.
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; APPLICANT: Tumas, Daniel
; APPLICANT: Williams, P. Mickey
; APPLICANT: Wood, William I.
; TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
; FILE REFERENCE: P2630PIC63
; CURRENT APPLICATION NUMBER: US/09/999,832A
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 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085580  
 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085573  
 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085704  
 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085597

Best Local Similarity	33.14	Freq. NO.	4,358,51
Matches	124;	Conservative	52;
		Mismatches	145;
		Indels	54;
		Gaps	18

Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18

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500 Y----CMGPPDCLNGSEBEQCOEGY--PCGTFTQCE--DRSCVKKPNPQCDGRPDRCGS 552

161 DCGMPPGNSPWOVXITDSKKIACGAVITHPSVILTAHOMD 214

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215 ESKKLVIRGEYDLRR-WE--KW--EJDDDIKEVHVHPNYSKSTTDNDLALHLAQPATL 269

612 EDSMASTVLTWTFVGKWKQNSRMPGEVSFKVSRLLHPYHEEDSHDYVALLQLDHPVVR 671

270 SQTIVPICLDPSGLAEREINQAGEITVTGWCYHSREKAKRNRTFVLFNFIKIPVPHN 329

672 SAAVRPCLP---ARSHFEFGLHCITTWG--ALREGGPISN---ALQKNDVQLIPD 722

330 ECSEVMSNNTSYENMLCAGILGDRQDACEGDSGGPMVA-SFHGMELVGLVSNKGEGGGLH 388

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Db 783 YFGVYTRITGVLSMI 797

REPORT 107

US-09-978-189-169  
Registration no./00878189

Sequence 169, Application US/03/0605  
Publication No. US20030004102A1

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; GENERAL INFORMATION:
APPLICANT: Ashkenazi, Avi

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APPLICANT: Baker Kevin P.  
APPLICANT: Rotstein, David

APPLICANT: Desnoyers, Luc  
APPLICANT: Eaton Dan

APPLICANT: Ferrara, Napoleon

APPLICANT: FIVAROLI, Eileen

100



APPLICANT: Fong, Sherman  
APPLICANT: Gao, Wei-Qiang  
APPLICANT: Gerber, Hanspeter  
APPLICANT: Gerlitsen, Mary E.  
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APPLICANT: Stewart, Timothy A.  
APPLICANT: Tuma, Daniel  
APPLICANT: Williams, P. Mickey  
APPLICANT: Wood, William I.  
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
FILE REFERENCE: P2630PIC7  
CURRENT APPLICATION NUMBER: US/09/978,189  
CURRENT FILING DATE: 2001-10-15  
PRIOR APPLICATION NUMBER: 09/918585  
PRIOR FILING DATE: 2001-07-30  
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PRIOR APPLICATION NUMBER: 60/081049  
PRIOR FILING DATE: 1998-04-08  
PRIOR APPLICATION NUMBER: 60/081071  
PRIOR FILING DATE: 1998-04-08  
PRIOR APPLICATION NUMBER: 60/081195  
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PRIOR FILING DATE: 1998-04-09  
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PRIOR APPLICATION NUMBER: 60/081817  
PRIOR FILING DATE: 1998-04-15  
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PRIOR FILING DATE: 1998-04-15  
PRIOR APPLICATION NUMBER: 60/081838  
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PRIOR APPLICATION NUMBER: 60/082568  
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PRIOR FILING DATE: 1998-04-21  
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PRIOR FILING DATE: 1998-04-22  
PRIOR APPLICATION NUMBER: 60/082797  
PRIOR FILING DATE: 1998-04-22  
PRIOR APPLICATION NUMBER: 60/082796  
PRIOR FILING DATE: 1998-04-23  
PRIOR APPLICATION NUMBER: 60/083336  
PRIOR FILING DATE: 1998-04-27  
PRIOR APPLICATION NUMBER: 60/083322  
PRIOR FILING DATE: 1998-04-28  
PRIOR APPLICATION NUMBER: 60/083392  
PRIOR FILING DATE: 1998-04-29  
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PRIOR FILING DATE: 1998-04-29  
PRIOR APPLICATION NUMBER: 60/083554  
PRIOR FILING DATE: 1998-04-29  
PRIOR APPLICATION NUMBER: 60/083558  
PRIOR FILING DATE: 1998-04-29  
PRIOR APPLICATION NUMBER: 60/083559  
PRIOR FILING DATE: 1998-04-29  
PRIOR APPLICATION NUMBER: 60/083500

PRIOR FILING DATE: 1998-04-29  
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 PRIOR FILING DATE: 1998-04-30  
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 PRIOR FILING DATE: 1998-05-07  
 PRIOR APPLICATION NUMBER: 60/084598  
 PRIOR FILING DATE: 1998-05-07  
 PRIOR APPLICATION NUMBER: 60/084600  
 PRIOR FILING DATE: 1998-05-07  
 PRIOR APPLICATION NUMBER: 60/084627  
 PRIOR FILING DATE: 1998-05-07  
 PRIOR APPLICATION NUMBER: 60/084643  
 PRIOR FILING DATE: 1998-05-07  
 PRIOR APPLICATION NUMBER: 60/085339  
 PRIOR FILING DATE: 1998-05-13  
 PRIOR APPLICATION NUMBER: 60/085338  
 PRIOR FILING DATE: 1998-05-13  
 PRIOR APPLICATION NUMBER: 60/085323  
 PRIOR FILING DATE: 1998-05-13  
 PRIOR APPLICATION NUMBER: 60/085582  
 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085700  
 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085689  
 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085579  
 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085580  
 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085573  
 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085704  
 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085697

Query Match 20.2%; Score 470; DB 10; Length 802;  
 Best Local Similarity 33.1%; Pred. No. 2.5e-31;

Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--ICGHTGTCI---DGIQSFSCDGRSGMEGRFCOREVSLNCSLNDGGCTHYCLEE 112  
 DB 448 PCGEFLCSVNLCPACDGVK---DCPNGLDERNCVCRAFE-QCKEDS---TCISLPR 499  
 QY 113 VGNRCSGAPGYLGDLLQCHPAVYFPCGRPMKREKRSILK-----RDTE 160  
 DB 500 V-----CDGQPDCLNSDEBQCEGV--PCGTFTQCE-DRSCVKKPNQCDGRPDGRDS 552  
 QY 161 DOE-----DQVDRILDKMTTRGDSFPOVVLDSKKKLACGAVLHPSWVLTAAHAMD 214  
 DB 553 DEEHDCGILQGPSSRIYGAIVSSSEGEPMWQ-ASLQVGRNHCAGALLADRWVITAAHCQ 611  
 QY 215 ESKKLVRLEGYDLR--WE--KW--ELDLIDKEVFNHNTSKSTNDIALHLAOPATL 269  
 DB 612 EDWASVTLVTFILGKRWQNSRWGSEVSKVSRLLHPHYEEDSHDYVALQLDHPVVR 671  
 QY 270 SQTIVPICLPDGLARELNOAQETLVYMGCHSSREKAKRNTFTVLANIKIPVYPHN 329  
 DB 672 SAAVRPCLP-----ARSHFEPGLHCWITGWG--ALREGGPISN--ALQKVVDQLLPD 722  
 QY 330 ECSEVMNVSZNMICAGILGDRQDACEGDSGSPVVA-SFHGTWPLVGLVSGEGCGLH 388  
 DB 723 LGSNAKYQVYTRMLCAGYRKGRKKAQGDSDSGPLVCKALSGMFLAGLVSMGLGCGRRN 782

QY 389 NGVYTKVSRYLDMI 403  
 DB 783 YGVYTRITGVISMI 797

RESULT 102

US-09-978-608A-169  
 Sequence 169, Application US/09978608A  
 Publication No. US20030045462A1

GENERAL INFORMATION:  
 APPLICANT: Ashkenazi, Avi  
 APPLICANT: Baker Kevin P.  
 APPLICANT: Botstein, David  
 APPLICANT: Desnoyers, Luc  
 APPLICANT: Eaton, Dan  
 APPLICANT: Ferrara, Napoleon  
 APPLICANT: Filvaroff, Ellen  
 APPLICANT: Fong, Sherman  
 APPLICANT: Gao, Wei-Qiang  
 APPLICANT: Gerder, Hanspeter  
 APPLICANT: Gertsens, Mary E.  
 APPLICANT: Goddard, Audrey  
 APPLICANT: Godowski, Paul J.  
 APPLICANT: Grimaldi, J. Christopher  
 APPLICANT: Gurney, Austin L.  
 APPLICANT: Hillan, Kenneth J.  
 APPLICANT: Kijavitt, Ivar J.  
 APPLICANT: Kuo, Sophia S.  
 APPLICANT: Napier, Mary A.  
 APPLICANT: Pan, James  
 APPLICANT: Paoli, Nicholas F.  
 APPLICANT: Roy, Margaret Ann  
 APPLICANT: Shelton, David L.  
 APPLICANT: Stewart, Timothy A.  
 APPLICANT: Tumas, Daniel  
 APPLICANT: Williams, P. Mickey  
 APPLICANT: Wood, William I.  
 TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
 FILE REFERENCE: P2630PLC22  
 CURRENT APPLICATION NUMBER: US/09/978,608A  
 NUMBER OF SEQ. ID NOS: 624  
 PRIOR APPLICATION removed - See file wrapper or Palm  
 SEQ. ID NO 169  
 LENGTH: 802  
 TYPE: PRT  
 ORGANISM: Homo sapiens  
 US-09-978-608A-169

Query Match 20.2%; Score 470; DB 10; Length 802;  
 Best Local Similarity 33.1%; Pred. No. 2.5e-31;

Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--ICGHTGTCI---DGIQSFSCDGRSGMEGRFCOREVSLNCSLNDGGCTHYCLEE 112  
 DB 448 PCGEFLCSVNLCPACDGVK---DCPNGLDERNCVCRAFE-QCKEDS---TCISLPR 499  
 QY 113 VGNRCSGAPGYLGDLLQCHPAVYFPCGRPMKREKRSILK-----RDTE 160  
 DB 500 V-----CDGQPDCLNSDEBQCEGV--PCGTFTQCE-DRSCVKKPNQCDGRPDGRDS 552  
 QY 161 DOE-----DQVDRILDKMTTRGDSFPOVVLDSKKKLACGAVLHPSWVLTAAHAMD 214  
 DB 553 DEEHDCGILQGPSSRIYGAIVSSSEGEPMWQ-ASLQVGRNHCAGALLADRWVITAAHCQ 611  
 QY 215 ESKKLVRLEGYDLR--WE--KW--ELDLIDKEVFNHNTSKSTNDIALHLAOPATL 269  
 DB 612 EDWASVTLVTFILGKRWQNSRWGSEVSKVSRLLHPHYEEDSHDYVALQLDHPVVR 671  
 QY 270 SQTIVPICLPDGLARELNOAQETLVYMGCHSSREKAKRNTFTVLANIKIPVYPHN 329  
 DB 672 SAAVRPCLP-----ARSHFEPGLHCWITGWG--ALREGGPISN--ALQKVVDQLLPD 722

QY 330 ECSEWNNVSENNLCAGIIGRDACBGSGGPMVA-SFHGTWFLVGLVSWGCGGLH 388  
DB 723 LCSEAARYQVTPRMLCAGYRKKGKDCACGDSGGFLVCKALSGRMFLAGLVSWGLGCGRPN 782  
QY 389 NYGYTKVSRYLDMT 403  
DB 783 YFGVYTRITGVISWT 797

## RESULT 103

US-09-978-585A-169  
; Sequence 169, Application US/09978585A  
; Publication No. US20030049633A1  
; GENERAL INFORMATION:  
; APPLICANT: Ashkenazi, Avi  
; APPLICANT: Baker Kevin P.  
; APPLICANT: Botstein, David  
; APPLICANT: Desnoyers, Luc  
; APPLICANT: Baton, Dan  
; APPLICANT: Ferrara, Napoleon  
; APPLICANT: Filvaroff, Ellen  
; APPLICANT: Fong, Sherman  
; APPLICANT: Gao, Wei-Qiang  
; APPLICANT: Gerber, Hanspeter  
; APPLICANT: Gertlisen, Mary E.  
; APPLICANT: Goddard, Audrey  
; APPLICANT: Godowski, Paul J.  
; APPLICANT: Grimaldi, J. Christopher  
; APPLICANT: Gurney, Austin L.  
; APPLICANT: Hillan, Kenneth J.  
; APPLICANT: Kijavith, Ivar J.  
; APPLICANT: Kuo, Sophia S.  
; APPLICANT: Napier, Mary A.  
; APPLICANT: Pan, James;  
; APPLICANT: Paoni, Nicholas F.  
; APPLICANT: Roy, Margaret Ann  
; APPLICANT: Shelton, David L.  
; APPLICANT: Stewart, Timothy A.  
; APPLICANT: Tumas, Daniel  
; APPLICANT: Williams, P. Mickey  
; APPLICANT: Wood, William I.  
; TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
; TITLE OF INVENTION: Acids Encoding the Same  
; FILE REFERENCE: P2630P1C15  
; CURRENT APPLICATION NUMBER: US/09/978,585A  
; CURRENT FILING DATE: 2001-10-16  
; NUMBER OF SEQ ID NOS: 624  
; Prior Application removed - See File Wrapper or Palm  
; SEQ ID NO 169  
; LENGTH: 802  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-09-978-585A-169

Query Match

20.2% Score 470; DB 10; Length 802;  
Best Local Similarity 33.1%; Pred. No. 2,5e-31;  
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS-LCCGHGTCT---DGIQSPSCDCRSWGRFCQREVSLFNLGSGCTHYCLEE 112  
DB 448 PCGPEFLCSYNGLCVACDGVK---DCPNGLDERNVCGRATF-QCKEDS---TISLPK 499  
QY 113 VCMRGCSCAPGYLGGDLQCHPAVKFCGRPKMKKKRSHLK-----RUTE 160  
DB 500 V-----CDGQPDCLNGSDDEQCOEGV--PCGTFTFQCE-DRCVKKENPQCDGRPDGRGS 552  
QY 161 DDE-----DQVDEPLIDGKTRGDSFPMQVVLDSKKKLLACGAVLIHPSWVLTAAHGM 214  
DB 553 DEHDCGGLQGPSSRIVGAVSSESEPMQ--ASLQVRGHHICGALLADRWITTAHCFQ 611  
QY 215 ESKKLLVNLGEYDLR-WE--KW-ELDLDIKEVPHVPSKSTTDNDLALLHLAQPATL 269

DB 612 EDMASTVLTWFLGKAWQNSRWPGEVSFKYSRLLLHPYHEEDSHDYDVALLOLDHPVR 671  
QY 270 SQITVPCIPDSGLARELINQAGETLYTGWGSHSRKAKRNTFVNIKIPVPPHN 329  
DB 672 SAAVRPVCIP---ARSHFPEPLHGWITGWG--ALBGGPISN--ALQKVYQILPQD 722  
QY 330 ECSEWNNVSENNLCAGIIGRDACBGSGGPMVA-SFHGTWFLVGLVSWGCGGLH 388  
DB 723 LCSEAARYQVTPRMLCAGYRKKGKDCACGDSGGFLVCKALSGRMFLAGLVSWGLGCGRPN 782  
QY 389 NYGYTKVSRYLDMT 403  
DB 783 YFGVYTRITGVISWT 797

## RESULT 104

US-09-978-191A-169  
; Sequence 169, Application US/09978191A  
; Publication No. US20030050239A1  
; GENERAL INFORMATION:  
; APPLICANT: Ashkenazi, Avi  
; APPLICANT: Baker Kevin P.  
; APPLICANT: Botstein, David  
; APPLICANT: Desnoyers, Luc  
; APPLICANT: Baton, Dan  
; APPLICANT: Ferrara, Napoleon  
; APPLICANT: Filvaroff, Ellen  
; APPLICANT: Fong, Sherman  
; APPLICANT: Gao, Wei-Qiang  
; APPLICANT: Gerber, Hanspeter  
; APPLICANT: Gertlisen, Mary E.  
; APPLICANT: Goddard, Audrey  
; APPLICANT: Godowski, Paul J.  
; APPLICANT: Grimaldi, J. Christopher  
; APPLICANT: Gurney, Austin L.  
; APPLICANT: Hillan, Kenneth J.  
; APPLICANT: Kijavith, Ivar J.  
; APPLICANT: Kuo, Sophia S.  
; APPLICANT: Napier, Mary A.  
; APPLICANT: Pan, James;  
; APPLICANT: Paoni, Nicholas F.  
; APPLICANT: Roy, Margaret Ann  
; APPLICANT: Shelton, David L.  
; APPLICANT: Stewart, Timothy A.  
; APPLICANT: Tumas, Daniel  
; APPLICANT: Williams, P. Mickey  
; APPLICANT: Wood, William I.  
; TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
; TITLE OF INVENTION: Acids Encoding the Same  
; FILE REFERENCE: P2630P1C4  
; CURRENT APPLICATION NUMBER: US/09/978,191A  
; CURRENT FILING DATE: 2001-10-15  
; PRIOR APPLICATION NUMBER: 09/918585  
; PRIOR FILING DATE: 2001-07-30  
; PRIOR APPLICATION NUMBER: 60/062250  
; PRIOR FILING DATE: 1997-10-17  
; PRIOR APPLICATION NUMBER: 60/064249  
; PRIOR FILING DATE: 1997-11-03  
; PRIOR APPLICATION NUMBER: 60/065311  
; PRIOR FILING DATE: 1997-11-13  
; PRIOR APPLICATION NUMBER: 60/066364  
; PRIOR FILING DATE: 1997-11-21  
; PRIOR APPLICATION NUMBER: 60/077450  
; PRIOR FILING DATE: 1998-03-10  
; PRIOR APPLICATION NUMBER: 60/077632  
; PRIOR FILING DATE: 1998-03-11  
; PRIOR APPLICATION NUMBER: 60/077641  
; PRIOR FILING DATE: 1998-03-11  
; PRIOR APPLICATION NUMBER: 60/077649  
; PRIOR FILING DATE: 1998-03-11  
; PRIOR APPLICATION NUMBER: 60/077791  
; PRIOR FILING DATE: 1998-03-12  
; PRIOR APPLICATION NUMBER: 60/078004

20.28; Score 470; DB 10; Length 802;

Best Local Similarity 33.1%; Pred. No. 2,5e-31;  
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--ICGHTCT--DIGSFSCDREGEFPCQREVSFLNSLDNGCTHYCEE 112  
DB 448 PCGEFLCSVNGLCVACDGVK---DCPNGLDERNCVCRANF-QCKEDS---TCISLPK 499  
QY 113 VCMRSCACBCKYKGLDGLQCHPAKPCPCPKKREKRSKSLK-----RDTE 160  
DB 500 V---CDGQPCDNGSDDEBCOEGV--PCGTFFPQCE-DRCGVKKNPCQDGPDCRSGS 552  
QY 161 DOE-----DQVDPRLIDGKMTNRGDSFQVVLIDSKKTLACGAVLIHPSVLLTAHAMD 214  
DB 553 DEHDHOCGLQSPSRIRVIGAVSSBEMWQ-ASLQVRGNHOGGLIADRWVITAAHCFQ 611  
QY 215 ESKKLVLRLGYDLR-WK--ELDLIKVFYHFNYSKSTTDIALHLAOPTL 269  
DB 612 EDSMASVLTWTFVLGKWMQNSRMPSEVSFKVSRLLHPYHEBDSHDVALLQDHPVVR 671  
QY 270 SCTVPICLPDGSLAEREINQAGETVTCMGVHSREKAKRRTFVLFKIPVDPHN 329  
DB 672 SAAPRVCLP---AKSHFPEGLHCWITMG--ALREGGPISN--ALQKDVOLITQD 722  
QY 330 ECEYVSMNMVSENNLCAGILGDRQDACEGSGGPMVA-SFHGTWFLVGLVSMGCGGLH 388  
DB 723 LCEAVRYQVTPRMLCGYRKXKXQACQDSDGPIVCKALSGRMFLAGLVSMGLGGRPN 782  
QY 389 NGCVTKYSRIIDWI 403  
DB 783 YFGVYRITIGVISWI 797

RESULT 105  
US-09-978-403A-169  
; Sequence 169, Application US/09978403A  
; Publication No. US20030050240A1  
; GENERAL INFORMATION:  
; APPLICANT: Ashkenazi, Avi  
; APPLICANT: Baker Kevin P.  
; APPLICANT: Botstein, David  
; APPLICANT: Desnoyers, Luc  
; APPLICANT: Eaton, Dan  
; APPLICANT: Ferrara, Napoleon  
; APPLICANT: Filvaroff, Ellen  
; APPLICANT: Fong, Sherman  
; APPLICANT: Gao, Wei-Qiang  
; APPLICANT: Gerber, Hanspeter  
; APPLICANT: Gerltisen, Mary E.  
; APPLICANT: Goddard, Audrey  
; APPLICANT: Godowski, Paul J.  
; APPLICANT: Grimaldi, J. Christopher  
; APPLICANT: Gurney, Austin L.  
; APPLICANT: Hillan, Kenneth J.  
; APPLICANT: Kijavlin, Ivar J.  
; APPLICANT: Kuo, Sophia S.  
; APPLICANT: Napier, Mary A.  
; APPLICANT: Pan, James:  
; APPLICANT: Paoni, Nicholas F.  
; APPLICANT: Roy, Margaret Ann  
; APPLICANT: Shelton, David L.  
; APPLICANT: Stewart, Timothy A.  
; APPLICANT: Tumas, Daniel  
; APPLICANT: Williams, P. Mickey  
; APPLICANT: Wood, William I.  
; TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
; FILE REFERENCE: P2630PIC17  
; CURRENT APPLICATION NUMBER: US/09/978,403A  
; PRIOR FILING DATE: 2002-03-19  
; PRIOR APPLICATION NUMBER: 09/918585  
; PRIOR FILING DATE: 2001-07-30  
; PRIOR APPLICATION NUMBER: 60/062250  
; PRIOR FILING DATE: 1997-10-17

; PRIOR APPLICATION NUMBER: 60/064249  
; PRIOR FILING DATE: 1997-11-03  
; PRIOR APPLICATION NUMBER: 60/065311  
; PRIOR FILING DATE: 1997-11-13  
; PRIOR APPLICATION NUMBER: 60/066364  
; PRIOR FILING DATE: 1997-11-21  
; PRIOR APPLICATION NUMBER: 60/077450  
; PRIOR FILING DATE: 1998-03-10  
; PRIOR APPLICATION NUMBER: 60/077632  
; PRIOR FILING DATE: 1998-03-11  
; PRIOR APPLICATION NUMBER: 60/077641  
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; PRIOR FILING DATE: 1998-03-11  
; PRIOR APPLICATION NUMBER: 60/077791  
; PRIOR FILING DATE: 1998-03-12  
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; PRIOR APPLICATION NUMBER: 60/079663  
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; PRIOR APPLICATION NUMBER: 60/080165  
; PRIOR FILING DATE: 1998-03-31  
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; PRIOR FILING DATE: 1998-03-31  
; PRIOR APPLICATION NUMBER: 60/080327  
; PRIOR FILING DATE: 1998-04-01  
; PRIOR APPLICATION NUMBER: 60/080328  
; PRIOR FILING DATE: 1998-04-01  
; PRIOR APPLICATION NUMBER: 60/080333  
; PRIOR FILING DATE: 1998-04-01  
; PRIOR APPLICATION NUMBER: 60/080334  
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; PRIOR FILING DATE: 1998-04-08  
; PRIOR APPLICATION NUMBER: 60/081071  
; PRIOR FILING DATE: 1998-04-08  
; PRIOR APPLICATION NUMBER: 60/081195  
; PRIOR FILING DATE: 1998-04-08  
; PRIOR APPLICATION NUMBER: 60/081203  
; PRIOR FILING DATE: 1998-04-09  
; PRIOR APPLICATION NUMBER: 60/081229  
; PRIOR FILING DATE: 1998-04-09  
; PRIOR APPLICATION NUMBER: 60/081955

[illegible]

APPLICANT: Pan, James  
APPLICANT: Paoni, Nicholas F.  
APPLICANT: Roy, Margaret Ann  
APPLICANT: Shelton, David L.  
APPLICANT: Stewart, Timothy A.  
APPLICANT: Tumas, Daniel  
APPLICANT: Williams, P. Mickey  
APPLICANT: Wood, William I.  
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
FILE REFERENCE: P2630PIC25  
CURRENT APPLICATION NUMBER: US/09/978,564A  
CURRENT FILING DATE: 2001-10-16  
PRIOR APPLICATION NUMBER: 09/918585  
PRIOR FILING DATE: 2001-07-30  
PRIOR APPLICATION NUMBER: 60/062250  
PRIOR FILING DATE: 1997-10-17  
PRIOR APPLICATION NUMBER: 60/064249  
PRIOR FILING DATE: 1997-11-03  
PRIOR APPLICATION NUMBER: 60/065311  
PRIOR FILING DATE: 1997-11-13  
PRIOR APPLICATION NUMBER: 60/066364  
PRIOR FILING DATE: 1997-11-21  
PRIOR APPLICATION NUMBER: 60/077450  
PRIOR FILING DATE: 1998-03-10  
PRIOR APPLICATION NUMBER: 60/077632  
PRIOR FILING DATE: 1998-03-11  
PRIOR APPLICATION NUMBER: 60/077641  
PRIOR FILING DATE: 1998-03-11  
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PRIOR FILING DATE: 1998-05-15  
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PRIOR APPLICATION NUMBER: 60/085704  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085697

Query Match 20.2%; Score 470; DB 10; Length 802;

Best Local Similarity 33.1%; Pred. No. 2, 5e-31;  
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--LCGGHTCI---DGISSFCDSRGSGRCCQREVSFLNCSLDNGGCTHYCEE 112  
DB 448 PCGGFLCSVNGLCVPCACGVR---DCVGLDERNCVCRAIF-QCKEDS--TCLSLPK 499  
QY 113 VGRRCSCAPYKLGDDLLQCHPAVKFPCGRPKMKRKRSHLK-----RDTE 160  
DB 500 V-----CDGPPCLNGSDEECQCGV--PCGTFPQCE-DRCVKKXPQCDGRPCDRGS 552  
QY 161 DGE-----DQVPRLLDGMKTRRDSWQVVLDSKKLLAGAVLHPWVUTLAAHCD 214  
DB 553 DEHDCDGLGPPSSRIVGAVSSEGEPMWQ-ASLQVRGHICGALLADRWVITAAHCGQ 611  
QY 215 ESKKLLVRLGEYDLR-WE--KW--ELDLDIKEVFPVNYKSTTDNDIALHIAQATL 269  
DB 612 EDSMASTVLTWVFLGKWKQNSRPFGEVSKYSRLHLHPHEDSHDYDVALLDLHPVVR 671  
QY 270 SQTIVELCPDSGLAERELNOAQOETLVGMGSHSSREKARNRTFVNLFIKIVPEHN 329  
DB 672 SAARPVCLP-----ARSHPEPGLHOMITGMG--ALREGGPIISN---ALQVVOULIPD 722  
QY 330 ECEFWMSNNVSNMLCGILGRODACEGSDGGMVA-SHGHWLVLTVMSEGGGLH 388  
DB 723 LCSEAYRYQVTPRMICAGYRKRCQCGSDGGLVCKALSGWFLAGLVSWGLGGRN 782  
QY 389 NYGVYTKVSRVLDNT 403  
DB 783 YFGVYTRITGVISWT 797

RESULT 107

US-09-999-833A-169  
; Sequence 169, Application US/0999833A  
; Publication No US20030054405A1  
; GENERAL INFORMATION:  
; APPLICANT: Ashkenazi, Avi  
; APPLICANT: Baker Kevin P.

APPLICANT: Botstein, David  
APPLICANT: Deanoysers, Luc  
APPLICANT: Eaton, Dan  
APPLICANT: Ferrara, Napoleon  
APPLICANT: Filvaroff, Ellen  
APPLICANT: Fong, Sherman  
APPLICANT: Gao, Wei-Qiang  
APPLICANT: Gerber, Hanspeter  
APPLICANT: Gerritsen, Mary E.  
APPLICANT: Goddard, Audrey  
APPLICANT: Godowski, Paul J.  
APPLICANT: Grimaldi, J. Christopher  
APPLICANT: Gurney, Austin L.  
APPLICANT: Hillan, Kenneth J.  
APPLICANT: Kjaavn, Ivar J.  
APPLICANT: Kuo, Sophia S.  
APPLICANT: Napier, Mary A.  
APPLICANT: Pan, James  
APPLICANT: Paoni, Nicholas F.  
APPLICANT: Roy, Margaret Ann  
APPLICANT: Shelton, David L.  
APPLICANT: Stewart, Timothy A.  
APPLICANT: Thomas, Daniel  
APPLICANT: Williams, P. Mickey  
APPLICANT: Wood, William I.  
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
FILE REFERENCE: P2630P1C65  
CURRENT APPLICATION NUMBER: US/09/999,833A  
CURRENT FILING DATE: 2001-10-24  
PRIOR APPLICATION NUMBER: 09/918585  
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PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085697

Query Match 20.2%; Score 470; DB 10; Length 802;  
Best Local Similarity 33.1%; Pred. No. 2,5e-31;  
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

58 PCAS--LCGGTCT--DGISFSCDRCSGMGRCQREVSFLNCSLDNGCTHYCBE 112  
448 PCGEFLCSVGLCVPCADGVK---DCPNGLDERNCVGRATF-QCKEDS---TCISLPK 499  
113 VGRRCSCAPGKGLDGLQCHPAVKPCGRPWKMEKRRSHLK-----RDE 160  
500 V-----CDGPPCLMGSDBECCQGV--FCGTFPCE--DRSCVKKPNCDDGRPDRCDS 552  
161 DQE-----DQVPRLLDGMTRBDSFMQVYLLDSKKLACAVTLHPMSVTLTAHCD 214  
553 DEEHCDGGLQGPSSRIIVGAVSSEGBWQ--ASLQVRGHHITGGALLADRNVITTAHCD 611  
215 ESKKLVLRGEVDLRR--WE--ELDDIKEVFVHFNYSKSTTDNDIALHLAQPATL 269  
612 EDMSASTVMTVFLKAWQNSRMPGVSFKSRLLHPHEDSDYVALQIDHPVVR 671  
270 SQTIVPICLPSGLAERLNAQGETLVYTGWGHSSSEKAKRRTFYLANIKIPVPEPN 329  
672 SAAVRPVCJF---ARSHFEFGHGWITGWG--ALREGGPISN---ALQKVDVQLIPOD 722

QY 330 ECGEWMNMTSENMCLAGILDRDACEGDSGEMVA-SFHGTPLVGVNMGEGCGLH 388  
Db 723 LCSEAYRYQVTPRMLCAGRKCKDACQSDSGPLVCALSGRFLAGLWSWGLGCRPN 782  
QY 389 NYGVYTKVSRYLMI 403  
Db 783 YGVYTRITGVISMI 797

RESULT 108  
US-09-981-915A-169  
Sequence 169, Application US/09981915A  
Publication No. US20030054986A1  
GENERAL INFORMATION:  
APPLICANT: Ashkenazi, Avi  
APPLICANT: Baker Kevin P.  
APPLICANT: Botstein, David  
APPLICANT: Desnovers, Luc  
APPLICANT: Eaton, Dan  
APPLICANT: Ferrara, Napoleon  
APPLICANT: Filvaroff, Ellen  
APPLICANT: Fond, Sherman  
APPLICANT: Gao, Wei-Qiang  
APPLICANT: Gerber, Hanspeter  
APPLICANT: Gertsen, Mary E.  
APPLICANT: Goddard, Audrey  
APPLICANT: Godowski, Paul J.  
APPLICANT: Grimaldi, J. Christopher  
APPLICANT: Gurney, Austin L.  
APPLICANT: Hillan, Kenneth J.  
APPLICANT: Kijavita, Ivar J.  
APPLICANT: Kuo, Sophia S.  
APPLICANT: Napier, Mary A.  
APPLICANT: Pan, James  
APPLICANT: Paoni, Nicholas F.  
APPLICANT: Roy, Margaret Ann  
APPLICANT: Shelton, David L.  
APPLICANT: Stewart, Timothy A.  
APPLICANT: Thomas, Daniel  
APPLICANT: Williams, P. Mickey  
APPLICANT: Wood, William I.  
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
FILE REFERENCE: P263021C12  
CURRENT APPLICATION NUMBER: US/09/981,915A  
PRIOR APPLICATION NUMBER: 09/918585  
PRIOR FILING DATE: 2001-07-30  
PRIOR APPLICATION NUMBER: 60/062250  
PRIOR FILING DATE: 1997-10-17  
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PRIOR APPLICATION NUMBER: 60/082700  
PRIOR FILING DATE: 1998-04-22  
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PRIOR FILING DATE: 1998-04-23  
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PRIOR APPLICATION NUMBER: 60/085339  
PRIOR FILING DATE: 1998-05-13  
PRIOR APPLICATION NUMBER: 60/085338  
PRIOR FILING DATE: 1998-05-13  
PRIOR APPLICATION NUMBER: 60/085323  
PRIOR FILING DATE: 1998-05-13  
PRIOR APPLICATION NUMBER: 60/085582  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085700  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085689  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085579  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085580  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085573  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085704  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085697

## Query Match

20.2%; Score 470; DB 10; Length 802;

Best Local Similarity 33.1%; Pred. No. 2.5e-31;

Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--LCGCHGTCT---DGTGSSCDCCSGWEGFCCQRAVSFLNSLDNGSCHYCLER 112

Db 448 PCGEFLCSVNLGCPACDGVK----DCPNGLDERNCVCRATF--OCKEDS---TCISLPK 499  
QY 113 VGNRRSCAPGXYKGDLDLQCHPAVPCGPRPMKMEKKRSLK-----RDTE 160  
Db 500 V-----CDGQPDCLNGSDEBQCEGV--PCGFTTQCE--DRSCVKRPNQCDGPRDGRDS 552  
QY 161 DOE-----DQVDPRLIDGMRTRGDSPMOVLLDSKKKLAGAVLIHPSVVLTAACHWD 214  
Db 553 DEHCOCGLQGSSSRIVGAVSSEBWPQ--ASLQVAGRHLGGMALIDRWVITPAHCQ 611  
QY 215 ESKKLIVRLGEYDUR--WE--KM--ELDIDKEFVFNYSSTTDNIALHLAGPATL 269  
Db 612 EDMSASTVMTVFLGKWNQSRMPGEVSFKVRLIHPYHEDSHDVALLQDHPVR 671  
QY 270 SQITVPLCPDSCGLAEELNAGCEFLVTGNGYSSREKAKNRTFYLNFIKIPVPHN 329  
Db 672 SAARFVCLP-----ARSHFEPRGLHWITMG--ALRBSGPISN---ALQVVDVQLIPQ 722  
QY 330 ECSEFWSNNVSENNLCAGLIGRDQACBGDSGPMVA--SFHGTWFLVGLVSWEGCGILH 388  
Db 723 LCSEAVRYQVTPRLCAGYRKKGKDACQDSGGLVCKALSGWFLAGIWSWGLGCGRPN 782  
QY 389 NYGYTKVSRITDWT 403  
Db 783 YFGVYTRITGVISWT 797

RESULT 109  
US-09-978-824-169  
Sequence 169, Application US/9978824  
Publication No. US2003005216A1  
GENERAL INFORMATION:  
APPLICANT: Ashkenazi, Avi  
APPLICANT: Baker Kevin P.  
APPLICANT: Bostein, David  
APPLICANT: Deenoyers, Luc  
APPLICANT: Baton, Dan  
APPLICANT: Ferrara, Napoleon  
APPLICANT: Filvaroff, Ellen  
APPLICANT: Fong, Sherman  
APPLICANT: Gao, Wei-Qiang  
APPLICANT: Gerber, Hanspeter  
APPLICANT: Gerltsen, Mary E.  
APPLICANT: Goddard, Audrey  
APPLICANT: Godowski, Paul J.  
APPLICANT: Grimaldi, J. Christopher  
APPLICANT: Gurney, Austin L.  
APPLICANT: Hillan, Kenneth J.  
APPLICANT: Kijavich, Ivar J.  
APPLICANT: Kuo, Sophia S.  
APPLICANT: Napier, Mary A.  
APPLICANT: Pan, James;  
APPLICANT: Paoni, Nicholas F.  
APPLICANT: Roy, Margaret Ann  
APPLICANT: Shelton, David L.  
APPLICANT: Stewart, Timothy A.  
APPLICANT: Tumas, Daniel  
APPLICANT: Williams, P. Mickey  
APPLICANT: Wood, William I.  
TITLE OR INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
FILE REFERENCE: P2630PIC14  
CURRENT APPLICATION NUMBER: US/09/978, 824  
CURRENT FILING DATE: 2001-10-17  
PRIOR APPLICATION NUMBER: 09/918585  
PRIOR FILING DATE: 2001-07-30  
PRIOR APPLICATION NUMBER: 60/062250  
PRIOR FILING DATE: 1997-10-17  
PRIOR APPLICATION NUMBER: 60/064249  
PRIOR FILING DATE: 1997-11-03  
PRIOR APPLICATION NUMBER: 60/065311  
PRIOR FILING DATE: 1997-11-13  
PRIOR APPLICATION NUMBER: 60/066364



PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085579  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085580  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085573  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085704  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085697

Query Match 20.2%; Score 470; DB 10; Length 802;  
Best Local Similarity 33.1%; Pred No. 2,5e-31;  
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 16;

QY 58 PCAS--LCGAGTCT--DGISFSCDRCSSMEGRFCQREVSFLNCSLIDNGGCTHYCLEE 112  
DB 448 PCGPEFLGCVNGLCVPAKCDGVK---DCPNGLDERNCVCRAATF--CKKEDS---TCISLPK 499  
QY 113 VGMRRSCAPKYKIGDILLQCHPAYVFCGRPMKMKRSHLK-----RDTE 160  
DB 500 V---CDGQPDCLNGSDEQCQEGV--PCGTFPTQCE--DRSCVKKPQCDGRDCKRDS 552  
QY 161 DOE-----DQVDPRLIDGKTRGDPQVUULLDSKKLACGAVLIHPSVWLTAAKMD 214  
DB 553 DEHOCQGLQSPSSRIVGAVSSEGEWPMQ--ASLQVAGRHICGALLIDRWVITAAHCFQ 611  
QY 215 ESKKLIVRLGEYDLR--WE--KW--ELDIDKEVFAHPNYSKSTTDNIALHLAQPATL 269  
DB 612 EDMASTVLMVTFELKQWQNSRWPGEVSFKVSRLLHPHEEDSHDYVALLQJDPHYVR 671  
QY 270 SQTIVPLCLPDSGLAEELNQAQELTVNGMGVSSSEKAKRNTFLNFKIPVYPEN 329  
DB 672 SAAVRPVCIP---ASHFFEPGLHWTWKG--ALREGGPISN--ALQVVDYQILPQD 722  
QY 330 ECSEVMSNMVSNMLCAGILGDRQDACEGDSGAPVVA--SFHGTWPLVGLVSGRCGLAH 388  
DB 723 LGSARVQVTRMLCAGYRKXKXKQDQDSGFLVCKALSGRMFLAGVWMLGCGCRPN 782  
QY 389 NYGVYTKVSRYLDMT 403  
DB 783 YFGVYTRITGVISWI 797

RESULT 110  
US-09-918-585A-169  
Sequence 169, Application US/09918585A  
Publication No. US20030060406A1  
GENERAL INFORMATION:  
APPLICANT: Ashkenazi, Avi  
APPLICANT: Baker Kevin P.  
APPLICANT: Botstein, David  
APPLICANT: Desnoyers, Luc  
APPLICANT: Eaton, Dan  
APPLICANT: Ferrara, Napoleon  
APPLICANT: Filvaroff, Ellen  
APPLICANT: Fong, Sherman  
APPLICANT: Gao, Wei-Qiang  
APPLICANT: Gerber, Hanspeter  
APPLICANT: Gerltsen, Mary E.  
APPLICANT: Goddard, Audrey  
APPLICANT: Godowski, Paul J.  
APPLICANT: Grimaldi, J. Christopher  
APPLICANT: Gurney, Austin L.  
APPLICANT: Hillan, Kenneth J.  
APPLICANT: Kljavin, Ivar J.  
APPLICANT: Kuo, Sophia S.  
APPLICANT: Napier, Mary A.  
APPLICANT: Pan, James  
APPLICANT: Paoni, Nicholas F.  
APPLICANT: Roy, Margaret Ann  
APPLICANT: Shelton, David L.  
APPLICANT: Stewart, Timothy A.

APPLICANT: Tumas, Daniel  
APPLICANT: Williams, P. Mickey  
APPLICANT: Wood, William I.  
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
FILE REFERENCE: P2630PIC1  
CURRENT APPLICATION NUMBER: US/09/918,585A  
CURRENT FILING DATE: 2001-07-30  
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PRIOR FILING DATE: 1998-03-11  
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PRIOR FILING DATE: 1998-03-11  
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PRIOR APPLICATION NUMBER: 60/084627  
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 PRIOR FILING DATE: 1998-05-15  
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 PRIOR APPLICATION NUMBER: 60/085704  
 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085697  
 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/086023

Query Match 20.2%; Score 470; DB 10; Length 802;  
 Best Local Similarity 31.1%; Pred. No. 2.5e-31;  
 Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--LCGHTCT--DAGSFCDCRSQWGRFCOREVSLNCSIDNGGCTCYLCE 112  
 DB 448 PCGEGTLCVNGLCVPRCQSVK---DQNGLEBRCVCRATF--CKEDS---TCISLFX 499  
 QY 113 VGNRRCSCAPGKLGDDLLQCHPAKFPCCGPKKREKRSILK-----RDTE 160  
 DB 500 V---CDGQPDCLNGSDECCQEGV--PCGTFPTQCE--DRSCVKKPQCDGRPPDRDS 552  
 QY 161 DOE-----DQVDRLLDGMKTRRGSPQVLLDSKKKLAGAVLIHPSVLIATACMD 214  
 DB 553 DEHRCDCGGLQGSSTIVGAVSSBGEWMO--ASIQRGHICGALLADRVITTAHCRQ 611  
 QY 215 ESKKLLVRLGEYDLR--WE--ELDDIKVVFVHPNTSXTDNDIALHLAQPATL 269  
 DB 612 EDSMASTVMTVFLGKWQNSRWPGEVSPKXSRLLHPYHEEDSHDYVALQLDHPVVR 671  
 QY 270 SCQIVPICLPDSGLAEKRLNQAQETLVTCGHSSEKBAKRNFTFYANFKIPVPPN 329  
 DB 672 SAAVRPVCPL---ARSHFEPELHCWTGNG--ALREGGPTLN---ALQVTVQILIPD 722  
 QY 330 ECSEFWSNNVSENMICAGILGDRQACBGDSQGMVA--SFHGTWFLVQLVSWEGCGLLH 388  
 DB 723 LCSAIVRYVTPRMICAGYKRGKKKDCQDSGFLVCKALSGWFLAGVSWGIGCGRRN 782  
 QY 389 NYGVYTKVSRVLDWT 403  
 DB 783 YFGVYTRINGVISWI 797

RESULT 111  
 US-09-978-422A-169  
 ; Sequence 169, Application US/0978423A  
 ; Publication No. US20030069178A1  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Aekhenazi, Avi  
 ; APPLICANT: Baker Kevin P.  
 ; APPLICANT: Botstein, David  
 ; APPLICANT: Desnoyers, Luc  
 ; APPLICANT: Eaton, Dan  
 ; APPLICANT: Ferrara, Napoleon  
 ; APPLICANT: Filatsoff, Ellen

APPLICANT: Foog, Sherman  
APPLICANT: Geo, Wei-Qiang  
APPLICANT: Geiser, Hanspeter  
APPLICANT: Gerltsen, Mary E.  
APPLICANT: Goddard, Audrey  
APPLICANT: Godowski, Paul J.  
APPLICANT: Grimaldi, J. Christopher  
APPLICANT: Gurney, Austin L.  
APPLICANT: Hillan, Kenneth J.  
APPLICANT: Kijavlin, Ivar J.  
APPLICANT: Kuo, Sophia S.  
APPLICANT: Napier, Mary A.  
APPLICANT: Pan, James  
APPLICANT: Paoni, Nicholas F.  
APPLICANT: Roy, Margaret Ann  
APPLICANT: Shelton, David L.  
APPLICANT: Stewart, Timothy A.  
APPLICANT: Tumas, Daniel  
APPLICANT: Williams, P. Mickey  
APPLICANT: Wood, William I.  
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
FILE REFERENCE: P2630P1C21  
CURRENT APPLICATION NUMBER: US/09/978,423A  
PRIOR FILING DATE: 2002-05-16  
PRIOR APPLICATION NUMBER: 09/918585  
PRIOR FILING DATE: 2001-07-30  
PRIOR APPLICATION NUMBER: 60/062250  
PRIOR FILING DATE: 1997-10-17  
PRIOR APPLICATION NUMBER: 60/064249  
PRIOR FILING DATE: 1997-11-03  
PRIOR APPLICATION NUMBER: 60/065311  
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PRIOR APPLICATION NUMBER: 60/066364  
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PRIOR APPLICATION NUMBER: 60/077791  
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PRIOR FILING DATE: 1998-03-27  
PRIOR APPLICATION NUMBER: 60/079920  
PRIOR FILING DATE: 1998-03-30  
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PRIOR FILING DATE: 1998-03-30

PRIOR APPLICATION NUMBER: 60/080105  
PRIOR FILING DATE: 1998-03-31  
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PRIOR FILING DATE: 1998-03-31  
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PRIOR APPLICATION NUMBER: 60/085323  
PRIOR FILING DATE: 1998-05-13  
PRIOR APPLICATION NUMBER: 60/085582  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085700  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085889  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085579  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085580  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085573  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085704  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085697

Query Match 20.2%; Score 470; DB 10; Length 802;  
Best Local Similarity 33.1%; Pred. No. 2.5e-31;  
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--LCGHGTCT--DGISFSCDCRSQWEGRFQREVSFLNCSLDNGGCTHYCEE 112  
DB 448 PCGGEFLCSVAGLCVAPACGVK---DCPNGLDERNCVCRAVF-QCKEDS---TCLSLPK 499  
QY 113 VGNRRSCAPGYKLDLQCHPAYKFCGRPKWKEKRSILK-----RDE 160  
DB 500 V---CDGQPDCLNGSDEQCEGV--PCGTFTFQCE--DRSCVKKPNQCDGRDRCGS 552  
QY 161 DCE-----DQVDPRLIDGKMTRRDSDPMQVLLDSKKLACAGVLLHPSMVLTAACMD 214  
DB 553 DEHDCDGLQGESSRIYGCVASSEGEWMO-ASIQVRGHTIGGLINDRWVITAHCFQ 611  
QY 215 ESKKLVLGEYDLR-WE--ELDLIDKEVFVHPNYSKSTTDNDIALHLAOPATL 269  
DB 612 EDMASTVLMVTFGLKWKVQNSRWPBSFKVSRLLHPYHEBDSHDYVALLDIDHPVVR 671  
QY 270 SQTIVPICPDGSLAEELNQAQGEIVTGMGHSSEKAEARNITFLNFKITPIVPPN 329  
DB 672 SAAYRVCPLP---ARSHFEPLHWTGNG--ALREGGPISN---ALQKVDVQLIPD 722  
QY 330 BCEVSNVSNVSENMKAGIIGDRQACEGDSGQPMVA-SFHGTWFLVGLVSWRGGLH 388  
DB 723 LCEBAYRYQVTRMLCAGYRKKGKACCGDSGFLVKALSGWFLAGLVSWGLGGRN 782

QY 389 NYGVYTKVSRYLDMI 403  
DB 783 YGVYTRITGVTSWI 797

RESULT 112  
US-09-978-193A-169  
Sequence 169, Application US/0978193A  
Publication No. US20030073624A1  
GENERAL INFORMATION:  
APPLICANT: Ashkenazi, Avi  
APPLICANT: Baker Kevin P.  
APPLICANT: Botstein, David  
APPLICANT: Desnoyers, Luc  
APPLICANT: Eaton, Dan  
APPLICANT: Ferrara, Napoleon  
APPLICANT: Filvaroff, Ellen  
APPLICANT: Fong, Sherman  
APPLICANT: Gao, Wei-Qiang  
APPLICANT: Gerber, Hanspeter  
APPLICANT: Gertlesen, Mary E.  
APPLICANT: Goddard, Audrey  
APPLICANT: Godowski, Paul J.  
APPLICANT: Grimaldi, J. Christopher  
APPLICANT: Guiray, Austin J.  
APPLICANT: Hillan, Kenneth J.  
APPLICANT: Kijavlin, Ivar J.  
APPLICANT: Kuo, Sophia S.  
APPLICANT: Napier, Mary A.  
APPLICANT: Pan, James  
APPLICANT: Paoni, Nicholas F.  
APPLICANT: Roy, Margaret Ann  
APPLICANT: Shelton, David L.  
APPLICANT: Stewart, Timothy A.  
APPLICANT: Tumas, Daniel  
APPLICANT: Williams, P. Mickey  
APPLICANT: Wood, William I.  
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
FILE REFERENCE: P2630P1C6  
CURRENT APPLICATION NUMBER: US/09/978,193A  
CURRENT FILING DATE: 2002-02-21  
PRIOR APPLICATION NUMBER: 09/918585  
PRIOR FILING DATE: 2001-07-30  
PRIOR APPLICATION NUMBER: 60/062250  
PRIOR FILING DATE: 1997-10-17  
PRIOR APPLICATION NUMBER: 60/064249  
PRIOR FILING DATE: 1997-11-03  
PRIOR APPLICATION NUMBER: 60/065311  
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;; PRIOR FILING DATE: 1998-05-15  
;; PRIOR APPLICATION NUMBER: 60/085697

Query Match 20.2%; Score 470; DB 10; Length 802;  
Best Local Similarity 33.1%; Pred. No. 2,5e-31;  
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PQAS--LCGGHCT---DGTGSSCCRCRGWGRFCQREVSLFNGSLNGGCTHYCLE 112  
DB 448 PGGSEFLCSVNGLCVPAICGVK---DQNGLDERNVCVCRATF-QCKBDS---TGISLPK 499  
QY 113 VCMRRGSCAPGYKLGDDLLQCHPAVFPICGRPWKMEKKRSHLK-----RDTE 160  
DB 500 V-----CDGPDCLNGSDDEQCQEGV--FCGTPTFGCE-DRCGVKPNPQCDGPRDCRGS 552

QY 161 DQF-----DQVDPFLIDGKMTKRGSPWQVLLDSKKKACAGVLIHPSWVLIANACMD 214  
DQF-----DQVDPFLIDGKMTKRGSPWQVLLDSKKKACAGVLIHPSWVLIANACMD 214  
Db 553 DEHQDCGLQSPSSRIVGAVSSRGWPMQ--ASLQVGRHICGGLADRWVITPAACQ 611  
QY 215 ESKKLIVRGEYDLRR--WE--KM--ELDDIVEVHPNYSKSTTNDIALIHLACAPUL 269  
Db 612 EDMASTVLTWTFVLGKWMQNSRMFGVSKVSRLLIHFYEDSHDYVALLQDHFVRA 671  
QY 270 SQTIVPICLPDGLERLNOAGETLVGTWGVHSSREKAKNRTVLIHPIKIVVPEAN 329  
Db 672 SAARVPCLP---ARSHFEPGLHCWITGMG--ALREGPISN--ALQKVDQLLPQD 722  
QY 330 ECSSVMSNMVSENMICAGILDRDODACEPSCGPVNA--SHRGWFLVGVSMGSCGLI 388  
Db 723 LCSEAVRYQVTPRLCAGRRGKXKADACQDSGSLVCKALSGRFLAGLVSMGLGCRPN 782  
QY 389 NVGYTKVSRKYLPMI 403  
Db 783 YFGVYTRITGVISMT 797

## RESULT 113

US-09-997-830A-169

Sequence 169, Application US/09999830A

Publication No. US20030077700A1

GENERAL INFORMATION:

APPLICANT: Ashkenazi, Avi

APPLICANT: Baker Kevin P.

APPLICANT: Botstein, David

APPLICANT: Desnoyers, Luc

APPLICANT: Eaton, Dan

APPLICANT: Ferrara, Napoleon

APPLICANT: Filvaroff, Ellen

APPLICANT: Fong, Sherman

APPLICANT: Gerber, Hanspeter

APPLICANT: Gertsen, Mary E.

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APPLICANT: Godowski, Paul J.

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APPLICANT: Gurney, Austin L.

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APPLICANT: Kijavitt, Ivar J.

APPLICANT: Kuo, Sophia S.

APPLICANT: Napier, Mary A.

APPLICANT: Pan, James

APPLICANT: Paoni, Nicholas F.

APPLICANT: Roy, Margaret Ann

APPLICANT: Shelton, David L.

APPLICANT: Stewart, Timothy A.

APPLICANT: Thomas, Daniel

APPLICANT: Williams, P. Mickey

APPLICANT: Wood, William I.

TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic

FILE REFERENCE: P263091C70

CURRENT APPLICATION NUMBER: US/09/999,830A

CURRENT FILING DATE: 2001-08-31

PRIOR APPLICATION NUMBER: 09/918585

PRIOR FILING DATE: 2001-07-30

PRIOR APPLICATION NUMBER: 60/062250

PRIOR FILING DATE: 1997-10-17

PRIOR APPLICATION NUMBER: 60/064249

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PRIOR APPLICATION NUMBER: 60/077450

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PRIOR FILING DATE: 1998-04-21  
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 PRIOR FILING DATE: 1998-05-15

PRIOR APPLICATION NUMBER: 60/085573  
 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085704  
 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085697

Query Match 20.2%; Score 470; DB 10; Length 802;  
 Best Local Similarity 33.1%; Pred. No. 2.5e-31;  
 Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--LCCGHTCI---DGIASFCDSCSGEGRFQREVSFLNCSIDNGCCHRYCLBE 112  
 DB 448 PCGEFELCSVNLGCPACDGVK---DQNGIDERNVCGRATF--OCKEDS---TCLSLPR 499  
 QY 113 VGNRRCSAPGYKIGDILLQCHPAVFPQGRPMWRKESKSHLK-----RDTE 160  
 DB 500 V---CDQPPDCLNGBDEQCGGV--PCGFTTQCE--DRSCVKRPNQCGRDRGDS 552  
 QY 161 DOE-----DQVDPRLIDGMTRRQDSPMQVVLDSKKKLACGAVLIHPSVLTAAHCMD 214  
 DB 553 DEHICCGGLQGPSSRIYOGAVSSEGSWPMQ--ASLQVGRHICGALIDRWVITAAHCPCQ 611  
 QY 215 ESKKLVRIGEDLRR--WE--KM--ELDLIDKEFVHPNYSKSTTDNDIALHLAOPATL 269  
 DB 612 EDMASTVLTMTVFLGKWMQNSRMPGVSFVSRLPHVHEDSHDYDVALLODHEVVR 671  
 QY 270 SORTVPLCPDSDGLARELINQAGETLYTGWGYSSEKKEKANKRTFYANFIKIPVVEAN 329  
 DB 672 SAARVPCIP-----ARSHFEPELGHWTGNG--ALREGGPSLN--ALQVVDVQILPQD 722  
 QY 330 ECSEFWSNMVNSBNMLCAGILGRQDACBGDSGCPMVA--SHGTWFLVGLVWAGCGCLLH 388  
 DB 723 LCSEARVYQVTPRMICAGYRKCKDACQDSGSPVNCALSGRWFAGLVSMGICGRPN 782  
 QY 389 NYGYTYSKRYIDWI 403  
 DB 783 YFGVYTRITGVISWI 797

# RESULT 114 US-09-978-757A-169

Sequence 169, Application US/09978757A  
 Publication No. US20030083248A1

GENERAL INFORMATION:  
 APPLICANT: Ashkenazi, Avi  
 APPLICANT: Baker Kevin P.  
 APPLICANT: Botstein, David  
 APPLICANT: Denoyez, Luc  
 APPLICANT: Eaton, Dan  
 APPLICANT: Ferrara, Napoleon  
 APPLICANT: Filvaroff, Ellen  
 APPLICANT: Fong, Sherman  
 APPLICANT: Gao, Wei-Qiang  
 APPLICANT: Gerber, Hanspeter  
 APPLICANT: Gerltsen, Mary E.  
 APPLICANT: Goddard, Audrey  
 APPLICANT: Godowski, Paul J.  
 APPLICANT: Grimaldi, J. Christopher  
 APPLICANT: Gurney, Austin L.  
 APPLICANT: Hillan, Kenneth J.  
 APPLICANT: Kijavlin, Ivar J.  
 APPLICANT: Kuio, Sophia S.  
 APPLICANT: Napier, Mary A.  
 APPLICANT: Pan, James  
 APPLICANT: Paoni, Nicholas F.  
 APPLICANT: Roy, Margaret Ann  
 APPLICANT: Shelton, David L.  
 APPLICANT: Stewart, Timothy A.  
 APPLICANT: Tumas, Daniel  
 APPLICANT: Williams, P. Mickey  
 APPLICANT: Wood, William I.  
 TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
 TITLE OF INVENTION: Acids Encoding the Same

FILE REFERENCE: P2630P1C26  
CURRENT APPLICATION NUMBER: US/09/978,757A  
CURRENT FILING DATE: 2002-03-19  
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PRIOR APPLICATION NUMBER: 60/084643

PRIOR FILING DATE: 1998-05-07  
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PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085580  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085573  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085704  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085697

Query Match 20.2%; Score 470; DB 10; Length 802;

Best Local Similarity 33.1%; Pred. No. 2,5e-31;  
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

58 PCAS--LCCGHTCT--DGISSFCDCRSGMGRPCQREVSFLNGLSLNGGCTHYCBE 112  
448 PCGEHLCSVNGLCVPACDGVK---DCPNGLDERNCVCRATF--QCKEDS---TCISLPK 499  
113 VGRKRCSCAPGVKLGDDLLQCPNPKFCGCPMKREKRRSLK-----RDPE 160  
500 V---CDQPDCLNGSDEECQEGV--PCGTFTEQCE--DRSCVKKENPCDDGPRCDGDS 552  
161 DOE-----DQVDPRLDGMTRRSDSPQVVLDSKKKLAAGAVLHPMSVLTAAHCMD 214  
553 DEHCDCGCIQGPSSRTYGVASVEGEWQ--ASIQVRGHHIGGLIDMNVITAAHCQ 611  
215 ESKKLLVRLGEYDRLR--WE--KW--ELDLIKEVFVHPVYSSTTNDIALHLAAPT 269  
612 EDMASTVLTWVFLGKRWQNSRWPGEVSFKYSRLHLHPYEDSDHYVALLDLDPVVR 671  
270 SQTIVICLPDSGLAEHLNQAQELVTVMGCHSSPEAKRNTFLNPKIPVPPN 329  
672 SAARVCLP---ASHFEFPLHCWTGNG--ALBEGGPLSN---ALQKVDVQILPQD 722  
330 ECEVSNMNVSENMICAGIIGDRQDACEGDSGQPMVA--SFHGTWFLVGLVSWEGCGLLH 388  
723 LCSEAVRYQVTRMLCAGYRKKGKDCACGDSGGLVCKALSGRWFLAGLVSMGLGCGRDN 782  
389 NYGVYTKVSRYLDMT 403  
783 YFGVYTRITGVISMT 797

RESULT 115

US-09-978-187B-169

Sequence 169, Application US/09978187B

Publication No. US20030096744A1

GENERAL INFORMATION:

APPLICANT: Ashkenazi, Avi  
APPLICANT: Baker Kevin P.  
APPLICANT: Botstein, David  
APPLICANT: Desnoyers, Luc  
APPLICANT: Eaton, Dan  
APPLICANT: Ferrara, Napoleon  
APPLICANT: Filvaroff, Ellen  
APPLICANT: Fong, Sherman  
APPLICANT: Gao, Wei-Qiang  
APPLICANT: Gerber, Hanspeter  
APPLICANT: Gerltsen, Mary E.  
APPLICANT: Goddard, Audrey

APPLICANT: Godowski, Paul J.  
APPLICANT: Grimaldi, J. Christopher  
APPLICANT: Gurney, Austin L.  
APPLICANT: Hillan, Kenneth J.  
APPLICANT: Kljavin, Ivar J.  
APPLICANT: Kuo, Sophia S.  
APPLICANT: Napier, Mary A.  
APPLICANT: Pan, James  
APPLICANT: Peoni, Nicholas F.  
APPLICANT: Roy, Margaret Ann  
APPLICANT: Shelton, David L.  
APPLICANT: Stewart, Timothy A.  
APPLICANT: Tumas, Daniel  
APPLICANT: Williams, P. Mickey  
APPLICANT: Wood, William I.  
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
FILE REFERENCE: P2630PICS  
CURRENT APPLICATION NUMBER: US/09/978,187B  
CURRENT FILING DATE: 2001-10-15  
PRIOR APPLICATION NUMBER: 09/918585  
PRIOR FILING DATE: 2001-07-30  
PRIOR APPLICATION NUMBER: 60/062250  
PRIOR FILING DATE: 1997-10-17  
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PRIOR APPLICATION NUMBER: 60/085697

Query Match 20.2%; Score 470; DB 10; Length 802;  
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Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--LCGHTGTCI--DQISFSCDCRSGMGRFCQREVSFLNCSLDNGCTHYCLEF 112  
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QY 113 VGNRRSCAPRYKGDLDQCHPAKFCGPRKMEKKRSHTK-----RQTE 160  
DB 500 V----CDGQPCDLNGSDERCQEGV--PCGTFTPQCB-DRSCVKKENPQCDGPRDCRDS 552  
QY 161 DOE-----DQVDPRLIDGKMTTRGDSFMCVYVLLDSKKLACGAVLHPFVWLTAAHCMD 214  
DB 553 DEHCCGCGPSSRIYGVANVSSEBEMWQ--ASLQVRGHHICGGLIADRWVITAAHCPO 611  
QY 215 ESKKLLVRLGEYDUR--WE--KX--ELDLIKVEYVHPNYSSTDDNDIALHLPAPAL 269  
DB 612 EDMASTVLMVFLGKYQNSRWPGVSEFKVSRLLHPHEDSDHXVALQDHPVTR 671  
QY 270 SQTIVICIPDSGLAERELNAQGETIVYGVGYSREKXAKRNTFVLFKIPVPPHN 329  
DB 672 SAAFRVPCLP---RSHFFEPGLHWTGNG--ALREGPISN---ALQKVVYQALIPD 722  
QY 330 ECFEVSNNVSENNLCAGILGDRDACEGDSGGPMVA-SFHTWFLVGLVSGECCGLH 388  
DB 723 LCSAARYVYTRMLCAGYKKGKACQGDGGGLVCKALSGWFLAGLVSMWISGGRBN 782  
QY 389 NYGVYTVSRVYDWT 403  
DB 783 YFGVYTRITGVISWT 797

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 ; Publication No. US20030104938A1  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Ashkenazi, Avi  
 ; APPLICANT: Baker Kevin P.  
 ; APPLICANT: Botstein, David  
 ; APPLICANT: Desnoyers, Luc  
 ; APPLICANT: Eaton, Dan  
 ; APPLICANT: Ferrara, Napoleon  
 ; APPLICANT: Filvaroff, Ellen  
 ; APPLICANT: Fong, Sherman  
 ; APPLICANT: Gao, Wei-Qiang  
 ; APPLICANT: Gerber, Hanspeter  
 ; APPLICANT: Geritsen, Mary E.  
 ; APPLICANT: Goddard, Audrey  
 ; APPLICANT: Godowski, Paul J.  
 ; APPLICANT: Grimaldi, J. Christopher  
 ; APPLICANT: Gurney, Austin L.  
 ; APPLICANT: Hillan, Kenneth J.  
 ; APPLICANT: Kljavin, Ivar J.  
 ; APPLICANT: Kuo, Sophia S.  
 ; APPLICANT: Napier, Mary A.  
 ; APPLICANT: Pan, James  
 ; APPLICANT: Paoni, Nicholas F.  
 ; APPLICANT: Roy, Margaret Ann  
 ; APPLICANT: Shelton, David L.  
 ; APPLICANT: Stewart, Timothy A.  
 ; APPLICANT: Tumas, Daniel  
 ; APPLICANT: Williams, P. Mickey  
 ; APPLICANT: Wood, William I.  
 ; TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
 ; FILE REFERENCE: P2630PIC16  
 ; CURRENT APPLICATION NUMBER: US/09/978,643A  
 ; CURRENT FILING DATE: 2001-10-16  
 ; NUMBER OF SEQ ID NOS: 624  
 ; Prior Application removed - See file Wrapper or Palm  
 ; SEQ ID NO 169  
 ; LENGTH: 802  
 ; TYPE: PRT  
 ; ORGANISM: Homo sapiens  
 US-09-978-643A-169

Query Match 20.2%; Score 470; DB 10; Length 802;  
 Best Local Similarity 33.1%; Pred. No. 2.5e-31;  
 Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;  
 QY 58 PCAS--ICCGHGTCT---DGTGFSCTCRSGMGRFCQREVSFLNCSLNGSCTHYCEE 112  
 Db 448 PCGEFLCSVNGLCVPACDGVK---DCPNGLDERNCVCRAFP--QCKEDS---TCISLPK 499  
 QY 113 VGMRRSCAPYKLGDDLLQCHPAVKPCGRPMKREKRSHTK-----RDTE 160  
 Db 500 V-----CDGQPCDCLNGSDEBCOEGV--PCGTFPFCE--DRSCVKKPNPCDGRPCDDGS 552  
 QY 161 DOE-----DQVDPRLIDGKMTRRGDSFWQVLLDSKKKLACGAVLIHPSWVITTAACMD 214  
 Db 553 DEHDCGCGLPSSRIYGVAVSSSEGMFWQ--ASIQVRGRHICGALLADRWVITTAACFCQ 611  
 QY 215 ESKKLIVLIGDYLR--WE--KW--ELDDIKEYFVHNYSKSTNDIDALHIAQPATL 269  
 Db 612 EDSMASTVMTVFLGKWNQNSRMPGEVSFKVSRLLHPRHEDSHDYVALLQDHPVVR 671  
 QY 270 SQTIVPICLPDSGLARELNOAQGETLVTGWYHSSREKARNRTFVNFIKIPVPHN 329  
 Db 672 SAAYRVCPLP-----ARSHFPEFGHICWITGNG--ALRBGGPISN---ALQKVDVQILPOD 722  
 QY 330 EGESEVMSNWSNMALCAGILGRQDACEGSGGAPWYA--SFHGTFTVLGVLSGDECCGLH 388  
 Db 723 LQSEAYRYQVTPMPLCAGYRKGDACQDSGGSPVLCALSGRWFLAGLVSWGLGCGRPN 782

QY 389 NGVYTKVSRYLDMI 403  
 Db 783 YRGVYTRIRIGVISMT 797  
 RESULT 117  
 US-09-978-375A-169  
 ; Sequence 169, Application US/09978375A  
 ; Publication No. US20030130181A1  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Ashkenazi, Avi  
 ; APPLICANT: Baker Kevin P.  
 ; APPLICANT: Botstein, David  
 ; APPLICANT: Desnoyers, Luc  
 ; APPLICANT: Eaton, Dan  
 ; APPLICANT: Ferrara, Napoleon  
 ; APPLICANT: Filvaroff, Ellen  
 ; APPLICANT: Fong, Sherman  
 ; APPLICANT: Gao, Wei-Qiang  
 ; APPLICANT: Gerber, Hanspeter  
 ; APPLICANT: Geritsen, Mary E.  
 ; APPLICANT: Goddard, Audrey  
 ; APPLICANT: Godowski, Paul J.  
 ; APPLICANT: Grimaldi, J. Christopher  
 ; APPLICANT: Gurney, Austin L.  
 ; APPLICANT: Hillan, Kenneth J.  
 ; APPLICANT: Kljavin, Ivar J.  
 ; APPLICANT: Kuo, Sophia S.  
 ; APPLICANT: Napier, Mary A.  
 ; APPLICANT: Pan, James  
 ; APPLICANT: Paoni, Nicholas F.  
 ; APPLICANT: Roy, Margaret Ann  
 ; APPLICANT: Shelton, David L.  
 ; APPLICANT: Stewart, Timothy A.  
 ; APPLICANT: Tumas, Daniel  
 ; APPLICANT: Williams, P. Mickey  
 ; APPLICANT: Wood, William I.  
 ; TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
 ; FILE REFERENCE: P2630PIC24  
 ; CURRENT APPLICATION NUMBER: US/09/978,375A  
 ; CURRENT FILING DATE: 2002-04-19  
 ; Prior Application removed - See file Wrapper or Palm  
 ; NUMBER OF SEQ ID NOS: 624  
 ; SEQ ID NO 169  
 ; LENGTH: 802  
 ; TYPE: PRT  
 ; ORGANISM: Homo sapiens  
 US-09-978-375A-169

Query Match 20.2%; Score 470; DB 10; Length 802;  
 Best Local Similarity 33.1%; Pred. No. 2.5e-31;  
 Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;  
 QY 58 PCAS--ICCGHGTCT---DGTGFSCTCRSGMGRFCQREVSFLNCSLNGSCTHYCEE 112  
 Db 448 PCGEFLCSVNGLCVPACDGVK---DCPNGLDERNCVCRAFP--QCKEDS---TCISLPK 499  
 QY 113 VGMRRSCAPYKLGDDLLQCHPAVKPCGRPMKREKRSHTK-----RDTE 160  
 Db 500 V-----CDGQPCDCLNGSDEBCOEGV--PCGTFPFCE--DRSCVKKPNPCDGRPCDDGS 552  
 QY 161 DOE-----DQVDPRLIDGKMTRRGDSFWQVLLDSKKKLACGAVLIHPSWVITTAACMD 214  
 Db 553 DEHDCGCGLPSSRIYGVAVSSSEGMFWQ--ASIQVRGRHICGALLADRWVITTAACFCQ 611  
 QY 215 ESKKLIVLIGDYLR--WE--KW--ELDDIKEYFVHNYSKSTNDIDALHIAQPATL 269  
 Db 612 EDSMASTVMTVFLGKWNQNSRMPGEVSFKVSRLLHPRHEDSHDYVALLQDHPVVR 671  
 QY 270 SQTIVPICLPDSGLARELNOAQGETLVTGWYHSSREKARNRTFVNFIKIPVPHN 329  
 Db 672 SAAYRVCPLP-----ARSHFPEFGHICWITGNG--ALRBGGPISN---ALQKVDVQILPOD 722

Qy 330 ECSEWMSNWSNMTCAGLGDRODACEGSGEPWVA-SFHGTWFLVGLNSWMBGCGLLH 388  
Db 723 L0SEAYRYQVTPRMCAGRKXKDAQ03D053PLVCKALSGRMFLAGLWSWGLGCGREN 782  
Qy 389 NNGVYTKVSRYLPMI 403  
Db 783 YFGVYTRITGVISMI 797

RESULT 118  
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Sequence 169, Application US/09978298A  
Publication No. US20030134785A1  
GENERAL INFORMATION:  
APPLICANT: Ashkenazi, Avi  
APPLICANT: Baker Kevin P.  
APPLICANT: Botstein, David  
APPLICANT: Desnoyers, Luc  
APPLICANT: Eaton, Dan  
APPLICANT: Ferrara, Napoleon  
APPLICANT: Filvaroff, Ellen  
APPLICANT: Fond, Sherman  
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APPLICANT: Pan, James J.  
APPLICANT: Paoni, Nicholas F.  
APPLICANT: Roy, Margaret Ann  
APPLICANT: Shelton, David L.  
APPLICANT: Stewart, Timothy A.  
APPLICANT: Tomas, Daniel  
APPLICANT: Williams, P. Mickey  
APPLICANT: Wood, William I.  
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
Acids Encoding the Same  
FILE REFERENCE: P2630P1C2  
CURRENT APPLICATION NUMBER: US/09/978,298A  
PRIOR FILING DATE: 2001-10-15  
PRIOR APPLICATION NUMBER: 09/918585  
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 PRIOR APPLICATION NUMBER: 60/085697

Query Match 20.2%; Score 470; DB 10; Length 802;

Best Local Similarity 33.1%; Pred. No. 2.5e-31;  
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

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 DB 500 V-----CDQOPCLNGSDEECQEGV--PCGFTFRQB-DRSCVKKPNPQCDGPRDRDS 552  
 QY 161 DQE-----DQVDPRLIDGKMTRRGDSFMQVLLDSKKTLACAVLJHPSKVLTAACHKD 214  
 DB 553 DEHDCOGIQQPSSRIYGVAGVSBEGMPWQ-ASLQVRGHNIGGALLIDRVVITAAHCQ 611  
 QY 215 ESKKILVRLGEYDIR-WE--KW--ELDLIKVFFVHPNYSSTTDNDIALHQAQATL 269  
 DB 612 EDMASVTVMVTFVFLGKWQNSRMPGVSFKVSRLLHPYHEBDSHDYVALLQJDPHYR 671  
 QY 270 SQTIVPICLPSGGLAEELNQAQCEITLVGNGYHSRREKAKRNTFFVAFIKIPVPHN 329  
 DB 672 SAARFVCLP-----ARSHFEPGLHWITMG--ALREGPSLN---ALQVVDVQLIPD 722  
 QY 330 ECSEVSNVNSVSENLICAGILGRDQACGDSGSGPMVA-SFEGTWLVGLVWSEGGCLH 388  
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 DB 783 YFGVYTRITGVISMT 797  
 RESULT 119  
 US-09-978-188A-169  
 Sequence 169, Application US/09978189A  
 Publication No. US20030139328A1  
 GENERAL INFORMATION:  
 APPLICANT: Ashkenazi, Avi  
 APPLICANT: Baker Kevin P.  
 APPLICANT: Bostein, David  
 APPLICANT: Deenoyers, Luc  
 APPLICANT: Balon, Dan  
 APPLICANT: Ferrara, Napoleon  
 APPLICANT: Filvaroff, Ellen  
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 APPLICANT: Gao, Wei-Qiang  
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 APPLICANT: Pan, James;  
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 APPLICANT: Roy, Margaret Ann  
 APPLICANT: Shelton, David L.  
 APPLICANT: Stewart, Timothy A.  
 APPLICANT: Tumas, Daniel  
 APPLICANT: Williams, P. Mickey  
 APPLICANT: Wood, William I.  
 TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
 FILE OF INVENTION: Acids Encoding the Same  
 FILE REFERENCE: P2630P1C8  
 CURRENT APPLICATION NUMBER: US/09/978, 188A  
 PRIOR FILING DATE: 2001-10-15  
 PRIOR APPLICATION NUMBER: 09/918585  
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Query Match      20 2%  Score 470; DB 10; Length 802;
Best Local Similarity 33.1%; Pred No. 2.5e-31;
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--LCCGHTCI---DQISFSCDSCSGMGEFCOREVAFINCSLIDNGGCTHYCEE 112
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QY 113 VGMKRCSCAPGKGLDGLLOCHPAVKFPCGRPKRMEKGRSHLK-----RDTE 160
DB 500 V---CDGQPCDLNGSDDECCQBGV--PCGTFTEQCE--DRSCVKKNPQCDGRDRCRGS 552
QY 161 DOE-----DQVDPRLIDGKMTRRGDSPMQVLLDSKKKLACGAVLHPSMVLTAACMD 214
DB 553 DEHCCGCGLOPSSRIYGAVASBEGWPMQ--ASIQYRGHHCIGGLADRMVITAAHCPQ 611
QY 215 ESKKGLVRLGEYDLR--WE--KW--ELDLIKVEFYHFNYSKSTNDIALHLAOPATL 269
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QY 270 SCQTVICLIPDSGLAEHLNQAQELVTMGCHSSSEKBAKNTFTVLFKIPVPEIN 329
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DB 723 LCSEARVYVTRMLCAGYKKGKADCCGDSGGFLVCKALSGRWFLAGLVSMGLGGRN 782
QY 389 NYGVYTKVSRYLDMT 403
DB 783 YFGVYTRITGVISMT 797

RESULT 120
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; Sequence 169, Application US/0978681A
; Publication No. US20030195148A1
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; APPLICANT: Napier, Mary A.
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; APPLICANT: Stewart, Timothy A.
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; APPLICANT: Tumas, Daniel
; APPLICANT: Williams, P. Mickey
; TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
; FILE REFERENCE: P2630P1C18
; CURRENT APPLICATION NUMBER: US/09/978,681A
; CURRENT FILING DATE: 2002-03-19
; PRIOR APPLICATION NUMBER: 09/918585
; PRIOR FILING DATE: 2001-07-30
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 PRIOR APPLICATION NUMBER: 60/084640  
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 PRIOR FILING DATE: 1998-05-07

PRIOR APPLICATION NUMBER: 60/084600  
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 PRIOR APPLICATION NUMBER: 60/085580  
 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085573  
 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085704  
 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085697

Query Match 20.2%; Score 470; DB 10; Length 802;  
 Best Local Similarity 35.1%; Pred. No. 2.5e-31;  
 Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 16;

QY 58 PCAS--LCGAGTCT--DAGSFCDCRSQMGRCFCOREVPSFLNCSLDNGCTHYCEE 112  
 DB 448 PCGCEFLCSVNGLCVPCACDVK---DCPNIDERNOCVRAKF-QCKEDS---TCISLPR 499  
 QY 113 VGNRCSGAPGKLGDDLIQHPAYKFCGPKRKRKRSILK-----RDIE 160  
 DB 500 V---CDGCPCLNGSDERCOBGV--PCGTFTFQCE--DRSCVKKPNQCDGRPPCRDSS 552  
 QY 161 DOE-----DQVDPRLIDGKMTNRGDSQVVLDSKKKLAGAVLIHPSVLTAAHCMD 214  
 DB 553 DEHCCDGGIQQSSRTIVGAVSSBGEWFMQ-ASIQVRGHITGGALIDRVVITAAHCQ 611  
 QY 215 ESKKLLVRLGEYDLR--WE--KW--ELDLDKEVFVHPNYSSTTDNDIALHLAPATL 269  
 DB 612 EDSMASTVMTVYFLGKXQNSRMPGVSFKVSRLLHPYHEEDSHDYVALLOLDHPVVR 671  
 QY 270 SCITVPICLPDSGLAERELNQAQETLVYMGYHSREKAKRNTFVLNFIKIPVPHN 329  
 DB 672 SAAVRVCLP---ARSHFPEPLHGWITGWG--ALREGGPISN---ALQKVYDVLIPDD 722  
 QY 330 ECGSFWNSMNVSENMCGIILGRDQACEGDSGGMVA-SFHTGFWLVGLVSMGCGLLH 388  
 DB 723 LCSAIVRYQVTFPRMLCAGIKRKKKDCQDSGSLVCKALSGWFLAGVSMGLGCGRRN 782  
 QY 389 NYGVYTKVSRVLDWT 403  
 DB 783 YFGVYTRITGVISWI 797

RESULT 121  
 US-09-978-194A-169  
 ; Sequence 169, Application US/09978194A  
 ; Publication No. US2003019533A1  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Ashkenazi, Avi  
 ; APPLICANT: Baker, Kevin P.  
 ; APPLICANT: Botstein, David  
 ; APPLICANT: Desnoyers, Luc  
 ; APPLICANT: Eaton, Dan  
 ; APPLICANT: Ferrara, Napoleon  
 ; APPLICANT: Filvaroff, Ellen

APPLICANT: Fong, Sherman  
APPLICANT: Gao, Wei-Qiang  
APPLICANT: Gerber, Hanspeter  
APPLICANT: Gerritsen, Mary E.  
APPLICANT: Goddard, Audrey  
APPLICANT: Godowski, Paul J.  
APPLICANT: Grimaldi, J. Christopher  
APPLICANT: Gurney, Austin L.  
APPLICANT: Hillen, Kenneth J.  
APPLICANT: Kljavin, Ivar J.  
APPLICANT: Kuo, Sophia S.  
APPLICANT: Napier, Mary A.  
APPLICANT: Pan, James.  
APPLICANT: Pao, Nicholas F.  
APPLICANT: Roy, Margaret Ann  
APPLICANT: Shelton, David L.  
APPLICANT: Stewart, Timothy A.  
APPLICANT: Tuma, Daniel  
APPLICANT: Williams, P. Mickey  
APPLICANT: Wood, William I.  
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
FILE REFERENCE: P2630PIC10  
CURRENT APPLICATION NUMBER: US/09/978,194A  
CURRENT FILING DATE: 2001-10-15  
PRIOR APPLICATION NUMBER: 09/918585  
PRIOR FILING DATE: 2001-07-30  
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 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085697

Query Match 20.2%; Score 470; DB 10; Length 802;  
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QY 58 PCAS--LCCGHTGTC--DGIQSFSCDRSGMEGRFCQREVSFLNCSLDNGGCTHYCLEE 112  
 DB 448 PCGGRFLCSVNGLCVPACDGVK---DCPNGLDERNCVCRAF--QCKEDS---TCISLPK 499  
 QY 113 VGNRSCAPGYKLGDDLLQCHPAVPCGRPWKMKKRSKSLK-----RDTE 160  
 DB 500 V-----CDGQPDCLNGBDEQCQEGV--PCGTFITQCE--DRSCVKKPNPQCDGRPRDRGS 552  
 QY 161 DGE-----DQVDPRLIDGKMTRRGDSFWQVVLDDSKKLAGAVLIHPSVWLTAAHCD 214  
 DB 553 DEEHCDGCIQGPSSRITVGAVSSEGEPMWQ--ASIQVRGRIHICGALLADRWVITTAHCFQ 611  
 QY 215 ESKKLIVRIGEYDLR--WE--KW--ELDLIKEYVHPNYSKSTNDIALHIAOPATL 269  
 DB 612 EDSMASTVLTWVFLGKWNQSNRWPGEVSFKVSRLLIHPYHEEDSHDYVALLODHPVVR 671  
 QY 270 SQTIVTICLPDSGLAERELNQAQETLVYTGWGHSSSEKAKRNTFTVNFITKIPVPHN 329  
 DB 672 SAAVRPVCPL--ARSHFEPGLHGWITG--ALREGGPISN---ALQKVDVQLIPD 722  
 QY 330 ECEVMNANVSNNMLCAGILGDQDACEGDSGGCPMTA--SFHGTWFLVGLVSMGCGGLIH 388  
 DB 723 LGSBAHYGVYTPRLKAGYKKGKKAACGDSGGFLYCKALSRWNLAVLWVSGGGRGN 782

QY 389 NGVYTKVSRYLDMI 403  
 DB 783 YGVYTRITGVISMI 797

RESULT 122  
 US-09-999-829A-169

Sequence 169, Application US/09999829A  
 Publication No. US20030195344A1  
 GENERAL INFORMATION:

APPLICANT: Ashkenazi, Avi  
 APPLICANT: Baker Kevin P.  
 APPLICANT: Botstein, David  
 APPLICANT: Desnoyers, Luc  
 APPLICANT: Katon, Dan  
 APPLICANT: Ferrara, Napoleon  
 APPLICANT: Filvaroff, Ellen  
 APPLICANT: Fong, Sherman  
 APPLICANT: Gao, Wei-Qiang  
 APPLICANT: Gerber, Hanspeter  
 APPLICANT: Gerritsen, Mary E.  
 APPLICANT: Goddard, Audrey  
 APPLICANT: Godowski, Paul J.  
 APPLICANT: Grimaldi, J. Christopher  
 APPLICANT: Gurney, Austin L.  
 APPLICANT: Hillan, Kenneth J.  
 APPLICANT: Kjaevan, Ivar J.  
 APPLICANT: Kuo, Sophia S.  
 APPLICANT: Napier, Mary A.  
 APPLICANT: Pan, James  
 APPLICANT: Paoni, Nicholas F.  
 APPLICANT: Roy, Margaret Ann  
 APPLICANT: Shelton, David L.  
 APPLICANT: Stewart, Timothy A.  
 APPLICANT: Thomas, Daniel  
 APPLICANT: Williams, P. Mickey  
 APPLICANT: Wood, William I.  
 TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
 FILE REFERENCE: P2630P1C61  
 CURRENT APPLICATION NUMBER: US/09/999,829A  
 CURRENT FILING DATE: 2002-03-19  
 NUMBER OF SEQ ID NOS: 624  
 Prior Application removed - See File Wrapper or Palm  
 SEQ ID NO 169  
 LENGTH: 802  
 TYPE: PRT  
 ORGANISM: Homo sapiens  
 US-09-999-829A-169

Query Match 20.2%; Score 470; DB 10; Length 802;  
 Best Local Similarity 33.1%; Pred. No. 2.5e-31;  
 Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--LCCGHTGTC--DGIQSFSCDRSGMEGRFCQREVSFLNCSLDNGGCTHYCLEE 112  
 DB 448 PCGGRFLCSVNGLCVPACDGVK---DCPNGLDERNCVCRAF--QCKEDS---TCISLPK 499  
 QY 113 VGNRSCAPGYKLGDDLLQCHPAVPCGRPWKMKKRSKSLK-----RDTE 160  
 DB 500 V-----CDGQPDCLNGBDEQCQEGV--PCGTFITQCE--DRSCVKKPNPQCDGRPRDRGS 552  
 QY 161 DGE-----DQVDPRLIDGKMTRRGDSFWQVVLDDSKKLAGAVLIHPSVWLTAAHCD 214  
 DB 553 DEEHCDGCIQGPSSRITVGAVSSEGEPMWQ--ASIQVRGRIHICGALLADRWVITTAHCFQ 611  
 QY 215 ESKKLIVRIGEYDLR--WE--KW--ELDLIKEYVHPNYSKSTNDIALHIAOPATL 269  
 DB 612 EDSMASTVLTWVFLGKWNQSNRWPGEVSFKVSRLLIHPYHEEDSHDYVALLODHPVVR 671  
 QY 270 SQTIVTICLPDSGLAERELNQAQETLVYTGWGHSSSEKAKRNTFTVNFITKIPVPHN 329  
 DB 672 SAAVRPVCPL--ARSHFEPGLHGWITG--ALREGGPISN---ALQKVDVQLIPD 722

QY 330 ECEYVMSNMYSENNLQAGILGRDACEGSGGPMWA-SFHTWTFVLGWSGEGCGLH 388  
Db 723 LCEHAYRYQVTPRLCAGTRKGRKXDCQSGSGPVLVCKRLSGRWFLLGLVSMGLGCGRPN 782  
QY 389 NGVYTVKVRYLDMI 403  
Db 783 YFGVYTRILTVISWI 797

RESULT 123  
US-09-978-299A-169  
/ Sequence 169, Application US/03978299A  
/ Publication No. US20030199435A1  
/ GENERAL INFORMATION:  
/ APPLICANT: Ashkenazi, Avi  
/ APPLICANT: Baker Kevin P.  
/ APPLICANT: Botstein, David  
/ APPLICANT: Desnoyers, Luc  
/ APPLICANT: Eaton, Dan  
/ APPLICANT: Ferrara, Napoleon  
/ APPLICANT: Flvaroff, Ellen  
/ APPLICANT: Fong, Sherman  
/ APPLICANT: Gao, Wei-Qiang  
/ APPLICANT: Gerber, Hanspeter  
/ APPLICANT: Gertlesen, Mary E.  
/ APPLICANT: Goddard, Audrey  
/ APPLICANT: Grimaldi, Paul J.  
/ APPLICANT: Gurney, Austin L.  
/ APPLICANT: Hillan, Kenneth J.  
/ APPLICANT: Kijavlin, Ivar J.  
/ APPLICANT: Kuo, Sophia S.  
/ APPLICANT: Napier, Mary A.  
/ APPLICANT: Pan, James  
/ APPLICANT: Paoni, Nicholas F.  
/ APPLICANT: Roy, Margaret Ann  
/ APPLICANT: Shelton, David L.  
/ APPLICANT: Stewart, Timothy A.  
/ APPLICANT: Tumas, Daniel  
/ APPLICANT: Williams, P. Mickey  
/ APPLICANT: Wood, William I.  
/ TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
/ FILE REFERENCE: P2630PIC3  
/ CURRENT APPLICATION NUMBER: US/09/978,299A  
/ PRIOR FILING DATE: 2001-10-15  
/ PRIOR APPLICATION NUMBER: 09/918585  
/ PRIOR FILING DATE: 2001-07-30  
/ PRIOR APPLICATION NUMBER: 60/062250  
/ PRIOR FILING DATE: 1997-10-17  
/ PRIOR APPLICATION NUMBER: 60/064249  
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/ PRIOR APPLICATION NUMBER: 60/082796

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PRIOR APPLICATION NUMBER: 60/085323  
PRIOR FILING DATE: 1998-05-13  
PRIOR APPLICATION NUMBER: 60/085582  
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PRIOR APPLICATION NUMBER: 60/085700  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085689  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085579  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085580  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085573  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085704  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085697

Query Match 20.2%; Score 470; DB 10; Length 802;  
Best Local Similarity 33.1%; Pred. No. 2,5e-31;  
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--LCCGHCCTC---DGTGSFSDCSCGMEGRFCORVSTLNCSDJNGSCCHYCTAE 112

Db 448 PCGEFLCSYNGLCVPACDGVK---DCPNGLDERNCVCRAF-OCKEDS---TCISLPK 499  
QY 113 VWRRCSCAGRYKLGPDLLQCHPAVKFPCGRPWKMEKKSRLK-----RDTE 160  
Db 500 V-----CDGQPCDANGSDDEQCOBGV--PCGTFFQGE-DRECVKRPQDGRPPCCRGCS 552  
QY 161 DOE-----DQVDPRLIDKMTTRGDSPMQVLLDSKKKACGAVLHPSPVTLAAHMD 214  
Db 553 DEHDGDCGLQSPSRITVGAVSSEDEMPWQ-ASLQVRGHHICGALLADRWVTLAAHCFQ 611  
QY 215 ESKLLVRLGRTYDIR-WE--KX--ELDDIKVFVHPYHSKSTTDNDIALHLAOPAL 269  
Db 612 EDSMASTVLMVTFPLGKVMQNSRMPGEVSFKVSRLLHPYHEHSDHDVALLQDHPVVR 671  
QY 270 SCOTIPICLPSGLAEHELNOAGQETLVTGMYHSSEKAKRRRTVLFKIPVPHN 329  
Db 672 SAARVPLCP---ASHFFEPGLHCWITGW--ALREBGPISN---ALQKDVUCLIPD 722  
QY 330 ECSEVSNMVSNNLCAGILGDRDQACDGGSGPMVA-SFHGTWFLVGLVSMGEGCGLIH 388  
Db 723 LGEAVRYQVTPRLGLGVRKKGKXDCQDGGSLVCKALSGRWFLAGLVSMGLGCGREN 782  
QY 389 NCVYTKYSRYLDWI 403  
Db 783 YFGVYRITGVISWI 797  
  
RESULT 124  
US-09-978-544A-169  
Sequence 169, Application US/09978544A  
Publication No. US20030199436A1  
GENERAL INFORMATION:  
APPLICANT: Ashkenazi, Avi  
APPLICANT: Baker Kevin P.  
APPLICANT: Bostein, David  
APPLICANT: Desnoyers, Luc  
APPLICANT: Eaton, Dan  
APPLICANT: Ferrara, Napoleon  
APPLICANT: Filvaroff, Ellen  
APPLICANT: Fong, Sherman  
APPLICANT: Gao, Wei-Qiang  
APPLICANT: Getber, Hanspeter  
APPLICANT: Gerltisen, Mary B.  
APPLICANT: Goddard, Audrey  
APPLICANT: Godowski, Paul J.  
APPLICANT: Grimaldi, J. Christopher  
APPLICANT: Gurney, Austin L.  
APPLICANT: Hillan, Kenneth J.  
APPLICANT: Kijavyn, Ivar J.  
APPLICANT: Kuo, Sophia S.  
APPLICANT: Napier, Mary A.  
APPLICANT: Paoni, Nicholas F.  
APPLICANT: Pan, James J.  
APPLICANT: Roy, Margaret Ann  
APPLICANT: Shelton, David L.  
APPLICANT: Stewart, Timothy A.  
APPLICANT: Tumas, Daniel  
APPLICANT: Williams, P. Mickey  
APPLICANT: Wood, William I.  
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
Acids Encoding the Same  
FILE REFERENCE: P2630PIC13  
CURRENT FILING DATE: 2002-03-19  
PRIOR APPLICATION NUMBER: 09/918585  
PRIOR FILING DATE: 2001-07-30  
PRIOR APPLICATION NUMBER: 60/062250  
PRIOR FILING DATE: 1997-10-17  
PRIOR APPLICATION NUMBER: 60/064249  
PRIOR FILING DATE: 1997-11-03  
PRIOR APPLICATION NUMBER: 60/065311  
PRIOR FILING DATE: 1997-11-13  
PRIOR APPLICATION NUMBER: 60/066364





;; PRIOR FILING DATE: 1998-05-15  
;; PRIOR APPLICATION NUMBER: 60/085579  
;; PRIOR FILING DATE: 1998-05-15  
;; PRIOR APPLICATION NUMBER: 60/085580  
;; PRIOR FILING DATE: 1998-05-15  
;; PRIOR APPLICATION NUMBER: 60/085573  
;; PRIOR FILING DATE: 1998-05-15  
;; PRIOR APPLICATION NUMBER: 60/085704  
;; PRIOR FILING DATE: 1998-05-15  
;; PRIOR APPLICATION NUMBER: 60/085697

Query Match 20.2%; Score 470; DB 10; Length 802;  
Best Local Similarity 33.1%; Pred. No. 2,5e-31;  
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--LCCHGTCI---DGIQSTSCDCRSGMGRFCQREVSFLNCSLNGGCHYCLAE 112  
Db 448 PCGGEFLCSVNGLCVACDGVK---DCEVGLDERNCVCRAFP-QCKEDS---TCISLIPK 499  
QY 113 VGMRCSCAPGYKLGDDLLQCHPAVKFCGRPMKMEKKRSHLK-----RDTE 160  
Db 500 V----CDGQPDCLNDSDEQCQEV--PCGTFFQCE-DRCGVAKRPQCDGRDPCRGSS 552  
QY 161 DDE-----DQVDRLLDGRMTRGDSFQVLLDSKKLAQGAVLIHPSWVLTAAQCMD 214  
Db 553 DEHDCDGLQGFSSRTVGAVSSEGEWPMQ-ASLQVGRSHICGALITADRWYITAAHCFQ 611  
QY 215 ESKKLLVLAGSYDLRR-WE--ELDLIDKEVFPHPYVSKSTNDILALHQAQATL 269  
Db 612 EDSMASVLMVTFGLKGMWNSRWPSEVSFKYSLLIHPHEBHDHVDVALLQLDHPVVR 671  
QY 270 SQTIVICLPDPSGLAEHLENOAGQETLVTMGYHSSREKAKRRRTVFNFIKIPVPHN 329  
Db 672 SAAYRVCPLP---ASHFFEPGLHMTWGM--ALREGRPSN--ALQKXVDVLIPOD 722  
QY 330 EGEFMSNMVSEMLCAGILGROACGSSGGSPMVA-SFHTFPIVGLVMSGECGLH 388  
Db 723 LCEEAYRYQVTPRMLCAGYRKQKQACQSGSGPLVCCKLSGRWFLAGLWSWGLCGGRPN 782  
QY 389 NGVYTKVSRYLDM 403  
Db 783 YEGVTRITGVISMI 797

## RESULT 125

;; US-09-978-665A-169  
;; Sequence 169, Application US/09978665A  
;; Publication No. US20030199437A1  
;; GENERAL INFORMATION:  
;; APPLICANT: Ashkenazi, Avi  
;; APPLICANT: Baker Kevin P.  
;; APPLICANT: Botstein, David  
;; APPLICANT: Desnovers, Luc  
;; APPLICANT: Eaton, Dan  
;; APPLICANT: Ferrara, Napoleon  
;; APPLICANT: Filvaroff, Ellen  
;; APPLICANT: Fong, Sherman  
;; APPLICANT: Gao, Wei-Qiang  
;; APPLICANT: Gerber, Hanspeter  
;; APPLICANT: Gerltsen, Mary E.  
;; APPLICANT: Goddard, Audrey  
;; APPLICANT: Grimaldi, J. Christopher  
;; APPLICANT: Gurney, Austin L.  
;; APPLICANT: Hillan, Kenneth J.  
;; APPLICANT: Kljavin, Ivar J.  
;; APPLICANT: Kuo, Sophia S.  
;; APPLICANT: Napier, Mary A.  
;; APPLICANT: Pan, James  
;; APPLICANT: Paoni, Nicholas F.  
;; APPLICANT: Roy, Margaret Ann  
;; APPLICANT: Shelton, David L.  
;; APPLICANT: Stewart, Timothy A.

;; APPLICANT: Tumas, Daniel  
;; APPLICANT: Williams, P. Mickey  
;; APPLICANT: Wood, William I.  
;; TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
;; TITLE OF INVENTION: Acids Encoding the Same  
;; FILE REFERENCE: P2630FIC19  
;; CURRENT APPLICATION NUMBER: US/09/978, 665A  
;; PRIOR FILING DATE: 2001-10-16  
;; PRIOR APPLICATION NUMBER: 09/918585  
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 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085580  
 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085573  
 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085704  
 PRIOR FILING DATE: 1998-05-15  
 PRIOR APPLICATION NUMBER: 60/085697

Query Match 20.2% Score 470; DB 10; Length 802;

Best Local Similarity 33.1% Pred. No. 2.5e-31; Mismatches 145; Indels 54; Gaps 18;

Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

58 PCAS--LCCGHTCI---DGISPSDCRSGWGRFCCREVSFLNGLDNGCTHYCEE 112  
 448 PCGPERLCSYNGLCVPACDGVK---DCPNGDENNCVCATF-QCKES--TGISLPK 499  
 113 VGMRRCSGAPGYLGDILLQCHPAVFPCCGEPWKMCKKSHLK-----RDTE 160  
 500 V----CDGQPCDCLNGSDECCQCBGV--PGTFTFQCE-DSCVKKRNPQCDGRPDRCGS 552  
 161 DOE-----DQVDFLIDGKMTTRGDSPPQVLLSKKLACGAVLIHBSVLTAAHOMD 214  
 553 DEEDDCGLGQPSRSRVGAASVSEGEPMQ--ASLQVRGRHICGALLIARWITAHCFQ 611  
 215 ESKLVLRLGEYDLRR--KW--ELDLDIKVEFHPNYSKTTNDIALHIAQPATL 269  
 612 EDSMASTVMTVFLGKWNQSRMFGSEVSKYRLLHHPYHEDSHDYVALLQLDHPYVR 671  
 270 SGTIVPCLPDSGLARBLNDAQGFTLVTKMGYHSSREKAKRTPVNFIXIPVPHN 329  
 672 SAARVPVCLP---ARSHFEPFGJHCWITGWG--ALRGGFISN--ALQKVQVLFPQD 722  
 330 ESEFMSNMVSENMCLAGLIDRODACEGSGGPMVA--SFHGTWFLVGLVSGSCGLH 388  
 723 LQSEHYRYQVTPMMLCAGYRKCKDACQSDSGSLVCAALSGNFTLAGLVSGLCGRPN 782  
 389 NYGVYKVSRYLDWI 403  
 783 YRGVYTRITGVISWI 797

RESULT 126  
 US-09-978-802A-169  
 Sequence 169, Application US/09978802A  
 Publication No. US20030199674A1  
 GENERAL INFORMATION:  
 APPLICANT: Ashkenazi, Avi  
 APPLICANT: Baker Kevin P.  
 APPLICANT: Botstein, David  
 APPLICANT: Demoyers, Luc  
 APPLICANT: Eaton, Dan  
 APPLICANT: Ferrara, Napoleon  
 APPLICANT: Flivaotoff, Ellen

APPLICANT: Fong, Sherman  
APPLICANT: Gao, Wei-Qiang  
APPLICANT: Gerber, Hanspeter  
APPLICANT: Gerritsen, Mary E.  
APPLICANT: Goddard, Audrey  
APPLICANT: Godowski, Paul J.  
APPLICANT: Grimaldi, J. Christopher  
APPLICANT: Gurney, Austin L.  
APPLICANT: Hillan, Kenneth J.  
APPLICANT: Kijaviri, Ivar J.  
APPLICANT: Kuo, Sophia S.  
APPLICANT: Napier, Mary A.  
APPLICANT: Paoni, Nicholas F.  
APPLICANT: Roy, Margaret Ann  
APPLICANT: Shelton, David L.  
APPLICANT: Stewart, Timothy A.  
APPLICANT: Tumas, Daniel  
APPLICANT: Williams, P. Mickey  
APPLICANT: Wood, William I.  
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
FILE REFERENCE: P2630P1C20  
CURRENT APPLICATION NUMBER: US/09/978,802A  
CURRENT FILING DATE: 2001-10-16  
PRIOR APPLICATION NUMBER: 09/918585  
PRIOR FILING DATE: 2001-07-30  
PRIOR APPLICATION NUMBER: 60/062250  
PRIOR FILING DATE: 1997-10-17  
PRIOR APPLICATION NUMBER: 60/064249  
PRIOR FILING DATE: 1997-11-03  
PRIOR APPLICATION NUMBER: 60/065311  
PRIOR FILING DATE: 1997-11-13  
PRIOR APPLICATION NUMBER: 60/066364  
PRIOR FILING DATE: 1997-11-21  
PRIOR APPLICATION NUMBER: 60/077450  
PRIOR FILING DATE: 1998-03-10  
PRIOR APPLICATION NUMBER: 60/077632  
PRIOR FILING DATE: 1998-03-11  
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PRIOR FILING DATE: 1998-03-11  
PRIOR APPLICATION NUMBER: 60/077649  
PRIOR FILING DATE: 1998-03-11  
PRIOR APPLICATION NUMBER: 60/07791  
PRIOR FILING DATE: 1998-03-12  
PRIOR APPLICATION NUMBER: 60/078004  
PRIOR FILING DATE: 1998-03-13  
PRIOR APPLICATION NUMBER: 60/078886  
PRIOR FILING DATE: 1998-03-20  
PRIOR APPLICATION NUMBER: 60/078936  
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PRIOR APPLICATION NUMBER: 60/085573  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085704  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085697

Query Match 20.2%; Score 470; DB 10; Length 802;

Best Local Similarity 33.1%; Pred. No. 2,5e-31; Indels 54; Gaps 18;  
Matches 124; Conservative 52; Mismatches 145;

58 PCAS--LCCGHTCI--DGIGSPSCDCRSWEGRFCCREVSFANGLDNGGCHYCEE 112  
448 PCGHEFLCSYNGLCYPCACDYK--DCENGLDENKCYCART--QCKENS--TCISLPK 499  
113 VGMRRSCADPYKLDGDLLOCHPAVYKPCGRPMKMKKSHK-----BDTE 160  
500 V----CDGPDCLNSGDEQCQEGV--PGTFTPQCE--DSVCYKKNPCQDGRDPCDGS 552  
161 DOE-----DQVDPRLIDGKXTRRGSDSPWVLLDSKKLACANVLHHSWTLAAACMD 214  
553 DEEHDCGGLGQPSRSRVGAVSSEGEPMQ--ASLDVRRGRHICGALLADRWITTAACFO 611  
215 ESKLLVRLGEYDLRR--WE--K--ELDDDIKEVHPNYSKSTTNDIALHLAOPATL 269  
612 EDMSASTVLTWTFGLGWQNSRMGEVSPVSRLLHLYHEHSDHYDVALLOQDHPYVR 671  
270 SQTIVPICLPDSGLARELNQAGQETLVTKGSHSSREKAKNNKTFVINFKIPVVPEN 329  
672 SAAVRPVCLP---ASHFEPFGJHCWITGWC--ALRGGPISV--ALQKXDYQLLIPOD 722  
330 EGSRYMNVSENMILCAGLIGDRODACEBDSGGPWVA--SFHGMPLVGLVSWGBCGLIH 388  
723 LQSEKRYQVTRMLCAGIRKSKDCAQGDSSGAPLVCAALSGRNFLAGLIVSGLCCGRPN 782

Qy 389 NYGVYTKVSRYLDMT 403  
Db 783 YFGVYTRITGVISWT 797

RESULT 127

US-10-164-749A-169  
Sequence 169, Application US/10164749A  
Publication No. US20040029218A1

GENERAL INFORMATION:  
APPLICANT: Ashkenazi, Avi  
APPLICANT: Baker Kevin P.  
APPLICANT: Borstein, David  
APPLICANT: Deanyers, Luc  
APPLICANT: Eaton, Dan  
APPLICANT: Ferrara, Napoleon  
APPLICANT: Filvaroff, Ellen  
APPLICANT: Fong, Sherman  
APPLICANT: Gao, Wei-Qiang  
APPLICANT: Gerber, Hanspeter  
APPLICANT: Gerritsen, Mary E.  
APPLICANT: Goddard, Audrey  
APPLICANT: Godowski, Paul J.  
APPLICANT: Grimaldi, J. Christopher  
APPLICANT: Gurney, Austin L.  
APPLICANT: Hillan, Kenneth J.  
APPLICANT: Kijavich, Ivar J.  
APPLICANT: Kuo, Sophia S.  
APPLICANT: Napier, Mary A.  
APPLICANT: Pan, James J.  
APPLICANT: Paoni, Nicholas F.  
APPLICANT: Roy, Margaret Ann  
APPLICANT: Shelton, David L.  
APPLICANT: Stewart, Timothy A.  
APPLICANT: Tumas, Daniel  
APPLICANT: Williams, P. Mickey  
APPLICANT: Wood, William I.  
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
TITLE OR INVENTION: Acids Encoding the Same  
FILE REFERENCE: P2630P1C60  
CURRENT APPLICATION NUMBER: US/10/164,749A  
CURRENT FILING DATE: 2001-10-19  
PRIOR APPLICATION NUMBER: 09/918585  
PRIOR FILING DATE: 2001-07-30  
PRIOR APPLICATION NUMBER: 60/062250  
PRIOR FILING DATE: 1997-10-17  
PRIOR APPLICATION NUMBER: 60/064249  
PRIOR FILING DATE: 1997-11-03  
PRIOR APPLICATION NUMBER: 60/065311  
PRIOR FILING DATE: 1997-11-13  
PRIOR APPLICATION NUMBER: 60/066364  
PRIOR FILING DATE: 1997-11-21  
PRIOR APPLICATION NUMBER: 60/077450  
PRIOR FILING DATE: 1998-03-10  
PRIOR APPLICATION NUMBER: 60/077632  
PRIOR FILING DATE: 1998-03-11  
PRIOR APPLICATION NUMBER: 60/077641  
PRIOR FILING DATE: 1998-03-11  
PRIOR APPLICATION NUMBER: 60/077649  
PRIOR FILING DATE: 1998-03-11  
PRIOR APPLICATION NUMBER: 60/077791  
Remaining Prior Application data removed - See File Wrapper or PAM.  
NUMBER OF SEQ ID NOS: 624  
SEQ ID NO 169  
LENGTH: 802  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-164-749A-169

Query Match 20.2%; Score 470; DB 12; Length 802;  
Best Local Similarity 33.1%; Pred. No. 2,5e-31; Indels 54; Gaps 18;  
Matches 124; Conservative 52; Mismatches 145;

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QY 58 PCAS--LCCGHGTCI---DGIGSFSCDCRSRGWGRFCQREVSFLNCSLMDGCTHCLEE 112
Db 448 PCGGEFLCSVNGLCVACDGVK---DCPGLDERKVCVRATF-QCKEDS---TCISLPK 499
QY 113 VGMRRSCAPGYKLGDDLLQCHPAVKPCGRPWKMEKKRSHTK-----RDTE 160
Db 500 V----CDGQPCDCLNGSDEQCQEGV--PCGTFTFQCE--DRSCVKKPNQCDGRPCDRGSS 552
QY 161 DQE-----DQVPRLLIDKMTNRGDSFMQVYLLDSKKLACGAVLHPSWVLTAAHCHMD 214
Db 553 DEEHDCDGLQGPSSRIVGVAGVSSBGEWPMQ--ASLQVRGRHICGALLADRWVITAAHCFQ 611
QY 215 ESKLLVRLGEYDLRR--WE--KM--ELDLDIKEVFPHPNYSKSTTDNDIALHLAQPATL 269
Db 612 EDMSASTVLTMTVFLGKVMQNSRMPGEVSFKYSRLHLHPHEHSDHDVALLQDLHPVVR 671
QY 270 SQTIVPICLPDSGLAERELNQAQGETLVTGWSHRSREKARNKRTFVNLFIKIPVPHN 329
Db 672 SAAYRVCPLP---ARSHFFEPGLHCWITGWS--ALREGGPISN---ALQKVDVQLIPQD 722
QY 330 ECSEWMSNMVSENNLCAGILGDRDACEGSGGPMVA--SFHGTFVLGVLSWEGGGLIH 388
Db 723 LCESEAYRYQVTPRMLCAGYRKGDACQGDGSGGLVCKALSGRWFAGLWSWGLCCGRPN 782
QY 389 NYGVYTKVSRYLDMI 403
Db 783 YFGVYTRITGVISMI 797

RESULT 128
US-09-999-831A-169
; Sequence 169, Application US/09999831A
; Publication No. US200404832A1
; GENERAL INFORMATION:
; APPLICANT: Ashkenazi, Avi
; APPLICANT: Baker Kevin P.
; APPLICANT: Botstein, David
; APPLICANT: Desnoyers, Luc
; APPLICANT: Eaton, Dan
; APPLICANT: Ferrara, Napoleon
; APPLICANT: Filvaroff, Ellen
; APPLICANT: Fong, Sherman
; APPLICANT: Gao, Wei-Qiang
; APPLICANT: Gerber, Hanspeter
; APPLICANT: Gerritsen, Mary E.
; APPLICANT: Goddard, Audrey
; APPLICANT: Grimaldi, Paul J.
; APPLICANT: Gurney, Austin L.
; APPLICANT: Hillan, Kenneth J.
; APPLICANT: Kijavlin, Ivar J.
; APPLICANT: Kuo, Sophia S.
; APPLICANT: Napier, Mary A.
; APPLICANT: Pan, James
; APPLICANT: Paoni, Nicholas F.
; APPLICANT: Roy, Margaret Ann
; APPLICANT: Shelton, David L.
; APPLICANT: Stewart, Timothy A.
; APPLICANT: Tumas, Daniel
; APPLICANT: Williams, P. Mickey
; APPLICANT: Wood, William I.
; TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
; FILE REFERENCE: P26301C68
; CURRENT APPLICATION NUMBER: US/09/999,831A
; CURRENT FILING DATE: 2002-03-25
; NUMBER OF SEQ ID NOS: 624
; Prior Application removed - See File Wrapper or Palm
; SEQ ID NO 169
; LENGTH: 802
; TYPE: PRT
; ORGANISM: Homo sapiens
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US-09-999-831A-169
Query Match 20.2%; Score 470; DB 12; Length 802;
Best Local Similarity 33.1%; Pred. No. 2,5e-31;
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--LCCGHGTCI---DGIGSFSCDCRSRGWGRFCQREVSFLNCSLMDGCTHCLEE 112
Db 448 PCGGEFLCSVNGLCVACDGVK---DCPGLDERKVCVRATF-QCKEDS---TCISLPK 499
QY 113 VGMRRSCAPGYKLGDDLLQCHPAVKPCGRPWKMEKKRSHTK-----RDTE 160
Db 500 V----CDGQPCDCLNGSDEQCQEGV--PCGTFTFQCE--DRSCVKKPNQCDGRPCDRGSS 552
QY 161 DQE-----DQVPRLLIDKMTNRGDSFMQVYLLDSKKLACGAVLHPSWVLTAAHCHMD 214
Db 553 DEEHDCDGLQGPSSRIVGVAGVSSBGEWPMQ--ASLQVRGRHICGALLADRWVITAAHCFQ 611
QY 215 ESKLLVRLGEYDLRR--WE--KM--ELDLDIKEVFPHPNYSKSTTDNDIALHLAQPATL 269
Db 612 EDMSASTVLTMTVFLGKVMQNSRMPGEVSFKYSRLHLHPHEHSDHDVALLQDLHPVVR 671
QY 270 SQTIVPICLPDSGLAERELNQAQGETLVTGWSHRSREKARNKRTFVNLFIKIPVPHN 329
Db 672 SAAYRVCPLP---ARSHFFEPGLHCWITGWS--ALREGGPISN---ALQKVDVQLIPQD 722
QY 330 ECSEWMSNMVSENNLCAGILGDRDACEGSGGPMVA--SFHGTFVLGVLSWEGGGLIH 388
Db 723 LCESEAYRYQVTPRMLCAGYRKGDACQGDGSGGLVCKALSGRWFAGLWSWGLCCGRPN 782
QY 389 NYGVYTKVSRYLDMI 403
Db 783 YFGVYTRITGVISMI 797

RESULT 129
US-10-013-917A-169
; Sequence 169, Application US/10013917A
; Publication No. US20040063921A1
; GENERAL INFORMATION:
; APPLICANT: Ashkenazi, Avi
; APPLICANT: Baker Kevin P.
; APPLICANT: Botstein, David
; APPLICANT: Desnoyers, Luc
; APPLICANT: Eaton, Dan
; APPLICANT: Ferrara, Napoleon
; APPLICANT: Filvaroff, Ellen
; APPLICANT: Fong, Sherman
; APPLICANT: Gao, Wei-Qiang
; APPLICANT: Gerber, Hanspeter
; APPLICANT: Gerritsen, Mary E.
; APPLICANT: Goddard, Audrey
; APPLICANT: Grimaldi, Paul J.
; APPLICANT: Gurney, Austin L.
; APPLICANT: Hillan, Kenneth J.
; APPLICANT: Kijavlin, Ivar J.
; APPLICANT: Kuo, Sophia S.
; APPLICANT: Napier, Mary A.
; APPLICANT: Pan, James
; APPLICANT: Paoni, Nicholas F.
; APPLICANT: Roy, Margaret Ann
; APPLICANT: Shelton, David L.
; APPLICANT: Stewart, Timothy A.
; APPLICANT: Tumas, Daniel
; APPLICANT: Williams, P. Mickey
; APPLICANT: Wood, William I.
; TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
; FILE REFERENCE: P26301C82
; CURRENT APPLICATION NUMBER: US/10/013,917A
; CURRENT FILING DATE: 2001-10-25
; Prior Application removed - See File Wrapper or Palm
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; NUMBER OF SEQ ID NOS: 624  
; SEQ ID NO 169  
; LENGTH: 802  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
us-10-013-917a-169

Query Match 20.2% Score 470; DB 12; Length 802;  
Best Local Similarity 33.1% Pred. No. 2.5e-11;  
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--LCCGHTCT---DGISFSCDCRSGEGRFCQREVSFLNCSLNDGGCTHYCLEE 112  
D 448 PCGEELGCVNGLCPNACDGVK---DCPNGLDERNCVCANP-QCKEDS---TCLSLK 499  
QY 113 VGMRRSCAPGYKLGDLIQCHPAVYFPGCRPMKMKKSHLK-----RDTE 160  
D 500 V---CDGPDCNLNSDEEQOQEGV--PCGFTTQCE-DKSCYKRNPDGCRDRCDS 552  
QY 161 DOE-----DQVDPRLDGMMTRGDSPMQVVLDSKKKLAGAVLIHPSVLTFAACMD 214  
D 553 DEHCOCGLQGPSRSLVGAIVSSEGWPMQ-ASLQVGRHICGALINDRVITPAHCQ 611  
QY 215 ESKLVLRLGEYDLER--WE--KW--ELDIDKEVFVHPNYSKSTTDNDIALHLAQPATL 269  
D 612 EDMSASTVMTVFLGKWKQNSRMPGVSPKSRLLHPHEBDSHDYVALLQDHPYR 671  
QY 270 SCITVPLCPDGLAEFLNQAGETLVGKCHSSSEKAKRNTFYINIKIPVYPN 329  
D 672 SAAVRPVCPLP---ARSHFEFPGHGMITGMG--ALREGGPISN--ALQCVVQQLPOD 722  
QY 330 ECSEWMSNVSENMCAGLIGDRODACEDSGGPMVA--SPHGTFVIVGVSMBGGGLH 388  
D 723 LCSEARVQYTRMLCAGYKKGKDKACQDSDGPIVCKALSGNPLAGVSMGLGCRPN 782  
QY 369 NYGYTVKVSRYLDMT 403  
D 783 YFGVYRITGVISWI 797

## RESULT 130

us-09-999-834a-169  
; Sequence 169, Application US/0999834A  
; Publication No. US20030064407A1  
; GENERAL INFORMATION:  
; APPLICANT: Ashkenazi, Avi  
; APPLICANT: Baker Kevin P.  
; APPLICANT: Botstein, David  
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; APPLICANT: Filvaroff, Ellen  
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; APPLICANT: Gao, Wei-Qiang  
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; APPLICANT: Grimaldi, J. Christopher  
; APPLICANT: Gutney, Auelin L.  
; APPLICANT: Hillan, Kenneth J.  
; APPLICANT: Kijavlin, Ivar J.  
; APPLICANT: Kuo, Sophia S.  
; APPLICANT: Napier, Mary A.  
; APPLICANT: Pan, James;  
; APPLICANT: Paoni, Nicholas F.  
; APPLICANT: Roy, Margaret Ann  
; APPLICANT: Shelton, David L.  
; APPLICANT: Stewart, Timothy A.  
; APPLICANT: Tumas, Daniel  
; APPLICANT: Williams, P. Mickey  
; APPLICANT: Wood, William I.  
; TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic

; TITLE OF INVENTION: Acid Encoding the Same  
; FILE REFERENCE: P2610P1C75  
; CURRENT APPLICATION NUMBER: US/09/999,834A  
; CURRENT FILING DATE: 2001-10-24  
; PRIOR APPLICATION NUMBER: 09/918585  
; PRIOR FILING DATE: 2001-07-30  
; PRIOR APPLICATION NUMBER: 60/062250  
; PRIOR FILING DATE: 1997-10-17  
; PRIOR APPLICATION NUMBER: 60/064249  
; PRIOR FILING DATE: 1997-11-03  
; PRIOR APPLICATION NUMBER: 60/065311  
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; PRIOR APPLICATION NUMBER: 60/066364  
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; PRIOR FILING DATE: 1998-04-08  
; PRIOR APPLICATION NUMBER: 60/081071

; PRIOR FILING DATE: 1998-04-08  
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 ; PRIOR APPLICATION NUMBER: 60/081229  
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 ; PRIOR FILING DATE: 1998-04-22  
 ; PRIOR APPLICATION NUMBER: 60/082804  
 ; PRIOR FILING DATE: 1998-04-22  
 ; PRIOR APPLICATION NUMBER: 60/082700  
 ; PRIOR FILING DATE: 1998-04-22  
 ; PRIOR APPLICATION NUMBER: 60/082797  
 ; PRIOR FILING DATE: 1998-04-22  
 ; PRIOR APPLICATION NUMBER: 60/082796  
 ; PRIOR FILING DATE: 1998-04-23  
 ; PRIOR APPLICATION NUMBER: 60/083336  
 ; PRIOR FILING DATE: 1998-04-27  
 ; PRIOR APPLICATION NUMBER: 60/083322  
 ; PRIOR FILING DATE: 1998-04-28  
 ; PRIOR APPLICATION NUMBER: 60/083392  
 ; PRIOR FILING DATE: 1998-04-29  
 ; PRIOR APPLICATION NUMBER: 60/083495  
 ; PRIOR FILING DATE: 1998-04-29  
 ; PRIOR APPLICATION NUMBER: 60/083496  
 ; PRIOR FILING DATE: 1998-04-29  
 ; PRIOR APPLICATION NUMBER: 60/083499  
 ; PRIOR FILING DATE: 1998-04-29  
 ; PRIOR APPLICATION NUMBER: 60/083545  
 ; PRIOR FILING DATE: 1998-04-29  
 ; PRIOR APPLICATION NUMBER: 60/083554  
 ; PRIOR FILING DATE: 1998-04-29  
 ; PRIOR APPLICATION NUMBER: 60/083558  
 ; PRIOR FILING DATE: 1998-04-29  
 ; PRIOR APPLICATION NUMBER: 60/083559  
 ; PRIOR FILING DATE: 1998-04-29  
 ; PRIOR APPLICATION NUMBER: 60/083500  
 ; PRIOR FILING DATE: 1998-04-29  
 ; PRIOR APPLICATION NUMBER: 60/083742  
 ; PRIOR FILING DATE: 1998-04-30  
 ; PRIOR APPLICATION NUMBER: 60/084366  
 ; PRIOR FILING DATE: 1998-05-05  
 ; PRIOR APPLICATION NUMBER: 60/084414  
 ; PRIOR FILING DATE: 1998-05-06  
 ; PRIOR APPLICATION NUMBER: 60/084441  
 ; PRIOR FILING DATE: 1998-05-06  
 ; PRIOR APPLICATION NUMBER: 60/084637  
 ; PRIOR FILING DATE: 1998-05-07  
 ; PRIOR APPLICATION NUMBER: 60/084639  
 ; PRIOR FILING DATE: 1998-05-07  
 ; PRIOR APPLICATION NUMBER: 60/084640  
 ; PRIOR FILING DATE: 1998-05-07  
 ; PRIOR APPLICATION NUMBER: 60/084598  
 ; PRIOR FILING DATE: 1998-05-07  
 ; PRIOR APPLICATION NUMBER: 60/084600  
 ; PRIOR FILING DATE: 1998-05-07  
 ; PRIOR APPLICATION NUMBER: 60/084627  
 ; PRIOR FILING DATE: 1998-05-07

; PRIOR APPLICATION NUMBER: 60/084643  
 ; PRIOR FILING DATE: 1998-05-07  
 ; PRIOR APPLICATION NUMBER: 60/085339  
 ; PRIOR FILING DATE: 1998-05-13  
 ; PRIOR APPLICATION NUMBER: 60/085338  
 ; PRIOR FILING DATE: 1998-05-13  
 ; PRIOR APPLICATION NUMBER: 60/085323  
 ; PRIOR FILING DATE: 1998-05-13  
 ; PRIOR APPLICATION NUMBER: 60/085582  
 ; PRIOR FILING DATE: 1998-05-15  
 ; PRIOR APPLICATION NUMBER: 60/085700  
 ; PRIOR FILING DATE: 1998-05-15  
 ; PRIOR APPLICATION NUMBER: 60/085689  
 ; PRIOR FILING DATE: 1998-05-15  
 ; PRIOR APPLICATION NUMBER: 60/085579  
 ; PRIOR FILING DATE: 1998-05-15  
 ; PRIOR APPLICATION NUMBER: 60/085580  
 ; PRIOR FILING DATE: 1998-05-15  
 ; PRIOR APPLICATION NUMBER: 60/085573  
 ; PRIOR FILING DATE: 1998-05-15  
 ; PRIOR APPLICATION NUMBER: 60/085704  
 ; PRIOR FILING DATE: 1998-05-15  
 ; PRIOR APPLICATION NUMBER: 60/085697

Query Match 20.2%; Score 470; DB 12; Length 802;  
 Best Local Similarity 33.1%; Pred. No. 2.5e-31;  
 Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PQAS-LCCGAGTCT--DGISFSCDCRSGMERFCQREVSFLNCSLDNGGCTHYCLE 112  
 DB 448 PCPEEFLGCVNGICVPAODGVK---DCPNGIDRRNCVCRAPE-QCKBDS---TCTSLPK 499  
 QY 113 VGMARCSAAGYKGLGDDLLQCHPAVFPCCGRPMWMEKRSKSHK-----RDTE 160  
 DB 500 V----CDGQDCLNSDBEQCGEV--PCGTYTQCE-DNSCVKKNPQCCGRDCCDS 552  
 QY 161 DOE-----DOVPELIDGKTRRGDSPPQVLLDSKKKLACGAVLIHPSWVTAHAMD 214  
 DB 553 DEHCDGQIQGPSRSRIIVGAVSSEGEPMWQ-ASIQVGRHICGALIDRAWVITAAHCEQ 611  
 QY 215 ESKKLVRIGEVYDLR-WE-KW--ELDDIKETVYVPMNSKSTTDNDIALHLAOPATL 269  
 DB 612 EDNSASTVMTVFLKQWNSRWPGEVSFKVSRLLHPHYEEDSHYDVALLOQDHYVR 671  
 QY 270 SQTVPICLPSGLARELNOAGQETLVGMGYSHSEKAKENRTFVNLFIKTPVVEHN 329  
 DB 672 SAARFVCLP-----ARSHFEPGLHGMITGK--ALHGGPIEN--ALQKVDVQLIPQ 722  
 QY 330 ECSESNMYSNNMLCAGITLDRDACAEDSGGPMVA-SFHGTWFLVGVSGGCGLLH 388  
 DB 723 LCSAAYRYQVTPRMLCAGYRKAKKDACQDSGGLPVCKALSGRMFLAGVSMGJGCRPN 782  
 QY 389 NYGVYTKVSKYLDWI 403  
 DB 783 YFGVYRITGVLSWI 797

# RESULT 131

US-10-162-521A-169  
 ; Sequence 169, Application US/10162521A

; Publication No. US20030211092A1  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Ashkenazi, Avi  
 ; APPLICANT: Baker Kevin P.  
 ; APPLICANT: Botstein, David  
 ; APPLICANT: Deenoyers, Luc  
 ; APPLICANT: Baton, Dan  
 ; APPLICANT: Ferrara, Napoleon  
 ; APPLICANT: Filvaroff, Ellen  
 ; APPLICANT: Fong, Sherman  
 ; APPLICANT: Gao, Wei-Qiang  
 ; APPLICANT: Gerber, Hanspeter  
 ; APPLICANT: Gerritsen, Mary E.





[illegible]

```

Db      672  SAARFVCLP-----ARSHFEFGHLCWTTGNG--ALREGGPISN---ALOKVDVQLHIFOD 722
QY      330  ECSEWNSMNVSNHNLKGLIADRGADCGEGCGPMVA-SFHGTFLVGLVSMGCGGGLH 380
Db      723  LCSEARVQYTRRLCLGKGYKXKROKCGDGDSPVYCRALSRLWNLGLVSWGLGGGPN 780
QY      389  NYGVYTKVSRRLDWT 403
Db      783  YFGVYTRITGVLSWI 797

```

```

RESULT 135
US-10-145-129A-169
? Sequence 169, Application US/10145129A
? Publication No. US200302034356A1
? GENERAL INFORMATION:
? APPLICANT: Ashkenazi, Avi
? APPLICANT: Baker Kevin P.
? APPLICANT: Botstein, David
? APPLICANT: Desnoyers, Luc
? APPLICANT: Eaton, Dan
? APPLICANT: Ferrara, Napoleon
? APPLICANT: Filvaroff, Ellen
? APPLICANT: Fong, Sherman
? APPLICANT: Gao, Wei-Qiang
? APPLICANT: Gerber, Hanspeter
? APPLICANT: Gerritsen, Mary E.
? APPLICANT: Goddard, Audrey
? APPLICANT: Godowski, Paul J.
? APPLICANT: Grimaldi, J. Christopher
? APPLICANT: Gurney, Austin L.
? APPLICANT: Hillan, Kenneth J.
? APPLICANT: Kljavin, Ivar J.
? APPLICANT: Kuo, Sophia S.
? APPLICANT: Napier, Mary A.
? APPLICANT: Paol, Nicholas F.
? APPLICANT: Paol, Margaret Ann
? APPLICANT: Shelton, David L.
? APPLICANT: Stewart, Timothy A.
? APPLICANT: Tumas, Daniel
? APPLICANT: Williams, P. Mickey
? APPLICANT: Wood, William I.
? TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
? TITLE OR INVENTION: Acids Encoding the Same
? FILE REFERENCE: P2630P1C51
? CURRENT APPLICATION NUMBER: US/10/145,129A
? PRIOR FILING DATE: 2002-10-10
? PRIOR APPLICATION NUMBER: 09/918585
? PRIOR FILING DATE: 2001-07-30
? PRIOR APPLICATION NUMBER: 60/062250
? PRIOR FILING DATE: 1997-10-17
? PRIOR APPLICATION NUMBER: 60/064249
? PRIOR FILING DATE: 1997-11-03
? PRIOR APPLICATION NUMBER: 60/065311
? PRIOR FILING DATE: 1997-11-13
? PRIOR APPLICATION NUMBER: 60/066364
? PRIOR FILING DATE: 1997-11-21
? PRIOR APPLICATION NUMBER: 60/077450
? PRIOR FILING DATE: 1998-03-10
? PRIOR APPLICATION NUMBER: 60/077632
? PRIOR FILING DATE: 1998-03-11
? PRIOR APPLICATION NUMBER: 60/077641
? PRIOR FILING DATE: 1998-03-11
? PRIOR APPLICATION NUMBER: 60/077649
? PRIOR FILING DATE: 1998-03-11
? PRIOR APPLICATION NUMBER: 60/077791
? PRIOR FILING DATE: 1998-03-12
? Remaining Prior Application data removed - See File Wrapper or PALM.
? NUMBER OF SEQ ID NOS: 624
? SEQ ID NO 169
? LENGTH: 802
? TYPE: PRT

```

ORGANISM: Homo sapiens  
US-10-145-129A-169

Query Match 20.2%; Score 470; DB 12; Length 802;  
Best Local Similarity 33.1%; Pred. No. 2.5e-31;  
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--LCGHTCTI---DGISFSCDRSGMEGRFCOREVSLNCSLDNGCTHYCEE 112  
DB 448 PCGEFLCSVNGLCVPCADGVK---DCPNGLDERNCVCRAFT-QCKEDS---TCISLPK 499  
QY 113 VGMRCSCAPGYKGLDGLQCHPAKFCGRPKMKRKRSHLK-----RDTE 160  
DB 500 V-----CDGQPCDCLNGSDERCOEGV--PCGFTFQCE-DRSCVKKPNDQCDGRPDGRGS 552  
QY 161 DOE-----DQVDPRLIDGKMTNRGDSFMQVLLDSKKKLAGVLIHPSWVLTAAHCD 214  
DB 553 DEHDDCGLGQPSRSLVGVAGVSSSEEMFWQ--ASLQVRGRIHICGALLADRWVITAAHCFQ 611  
QY 215 ESKLLVTLGEYDIR--WE--KW--ELDLIDKEVFNHPNYSKSTTDNDIALHLAQPATL 269  
DB 612 EDSMASTVMTVFLGKVMQNSRHPGEVSVKSLIHLHPYHEDSHDVALLOLHPVVR 671  
QY 270 SOTIVICLPGSLARELNQAGETLVYMGYHSREKAKNRRTVNFILIPVPHN 329  
DB 672 SAAYAPVCLP---ANSHPFEPGLHCWITG--ALRGGPISN--ALQKVDVLIPOD 722  
QY 330 ESEVMSNMVSENMLCAGILGPDODACEGDSGGPMVA--SFGTFLVGLVSWGEGGGLH 388  
DB 723 LCESEAYRYQVTPMLCAGYRKXKXDAQDGSGLVYCALSGRFLAGLVSWGLGCGRPN 782  
QY 389 NNGVYTKYSRYLMI 403  
DB 783 YFGVYTRITGVISMI 797

## RESULT 136

US-10-165-038A-169  
Sequence 169, Application US/10165038A  
Publication No. US20030203441A1  
GENERAL INFORMATION:

APPLICANT: Ashkenazi, Avi  
APPLICANT: Baker Kevin P.  
APPLICANT: Botstein, David  
APPLICANT: Deemeyers, Luc  
APPLICANT: Baton, Dan  
APPLICANT: Ferrara, Napoleon  
APPLICANT: Filvaroff, Ellen  
APPLICANT: Fong, Sherman  
APPLICANT: Gao, Wei-Qiang  
APPLICANT: Gerber, Hanspeter  
APPLICANT: Gerlitsen, Mary E.  
APPLICANT: Goddard, Audrey  
APPLICANT: Godowski, Paul J.  
APPLICANT: Grimaldi, J. Christopher  
APPLICANT: Gurney, Austin L.  
APPLICANT: Hillan, Kenneth J.  
APPLICANT: Kljavin, Ivar J.  
APPLICANT: Kuo, Sophia S.  
APPLICANT: Napier, Mary A.  
APPLICANT: Paoni, Nicholas P.  
APPLICANT: Roy, Margaret Ann  
APPLICANT: Shelton, David L.  
APPLICANT: Stewart, Timothy A.  
APPLICANT: Tumas, Daniel  
APPLICANT: Williams, P. Mickey  
APPLICANT: Wood, William I.  
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
FILE REFERENCE: P2630PIC29  
CURRENT FILING DATE: 2002-10-10

PRIOR APPLICATION NUMBER: 09/918585  
PRIOR FILING DATE: 2001-07-30  
PRIOR APPLICATION NUMBER: 60/062250  
PRIOR FILING DATE: 1997-10-17  
PRIOR APPLICATION NUMBER: 60/064249  
PRIOR FILING DATE: 1997-11-03  
PRIOR APPLICATION NUMBER: 60/065311  
PRIOR FILING DATE: 1997-11-13  
PRIOR APPLICATION NUMBER: 60/066364  
PRIOR FILING DATE: 1997-11-21  
PRIOR APPLICATION NUMBER: 60/077450  
PRIOR FILING DATE: 1998-03-10  
PRIOR APPLICATION NUMBER: 60/077632  
PRIOR FILING DATE: 1998-03-11  
PRIOR APPLICATION NUMBER: 60/077641  
PRIOR FILING DATE: 1998-03-11  
PRIOR APPLICATION NUMBER: 60/077649  
PRIOR FILING DATE: 1998-03-11  
PRIOR APPLICATION NUMBER: 60/077791  
PRIOR FILING DATE: 1998-03-12  
PRIOR APPLICATION NUMBER: 60/077791  
PRIOR FILING DATE: 1998-03-12  
NUMBER OF SEQ ID NOS: 624  
SEQ ID NO 169  
LENGTH: 802  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-165-038A-169

Query Match 20.2%; Score 470; DB 12; Length 802;  
Best Local Similarity 33.1%; Pred. No. 2.5e-31;  
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--LCGHTCTI---DGISFSCDRSGMEGRFCOREVSLNCSLDNGCTHYCEE 112  
DB 448 PCGEFLCSVNGLCVPCADGVK---DCPNGLDERNCVCRAFT-QCKEDS---TCISLPK 499  
QY 113 VGMRCSCAPGYKGLDGLQCHPAKFCGRPKMKRKRSHLK-----RDTE 160  
DB 500 V-----CDGQPCDCLNGSDERCOEGV--PCGFTFQCE-DRSCVKKPNDQCDGRPDGRGS 552  
QY 161 DOE-----DQVDPRLIDGKMTNRGDSFMQVLLDSKKKLAGVLIHPSWVLTAAHCD 214  
DB 553 DEHDDCGLGQPSRSLVGVAGVSSSEEMFWQ--ASLQVRGRIHICGALLADRWVITAAHCFQ 611  
QY 215 ESKLLVTLGEYDIR--WE--KW--ELDLIDKEVFNHPNYSKSTTDNDIALHLAQPATL 269  
DB 612 EDSMASTVMTVFLGKVMQNSRHPGEVSVKSLIHLHPYHEDSHDVALLOLHPVVR 671  
QY 270 SOTIVICLPGSLARELNQAGETLVYMGYHSREKAKNRRTVNFILIPVPHN 329  
DB 672 SAAYAPVCLP---ANSHPFEPGLHCWITG--ALRGGPISN--ALQKVDVLIPOD 722  
QY 330 ESEVMSNMVSENMLCAGILGPDODACEGDSGGPMVA--SFGTFLVGLVSWGEGGGLH 388  
DB 723 LCESEAYRYQVTPMLCAGYRKXKXDAQDGSGLVYCALSGRFLAGLVSWGLGCGRPN 782  
QY 389 NNGVYTKYSRYLMI 403  
DB 783 YFGVYTRITGVISMI 797

## RESULT 137

US-10-165-353A-169  
Sequence 169, Application US/10165353A  
Publication No. US20030203442A1  
GENERAL INFORMATION:

APPLICANT: Ashkenazi, Avi  
APPLICANT: Baker Kevin P.  
APPLICANT: Botstein, David  
APPLICANT: Deemeyers, Luc  
APPLICANT: Eaton, Dan  
APPLICANT: Ferrara, Napoleon  
APPLICANT: Filvaroff, Ellen

APPLICANT: Fong, Sherman  
APPLICANT: Gao, Wei-Qiang  
APPLICANT: Gerber, Hanspeter  
APPLICANT: Gerritsen, Mary E.  
APPLICANT: Goddard, Audrey  
APPLICANT: Godowski, Paul J.  
APPLICANT: Grimaldi, J. Christopher  
APPLICANT: Gurney, Austin L.  
APPLICANT: Hillan, Kenneth J.  
APPLICANT: Kljavin, Ivar J.  
APPLICANT: Kuo, Sophia S.  
APPLICANT: Napier, Mary A.  
APPLICANT: Pan, James.  
APPLICANT: Paoni, Nicholas F.  
APPLICANT: Roy, Margaret Ann  
APPLICANT: Shelton, David L.  
APPLICANT: Stewart, Timothy A.  
APPLICANT: Tumas, Daniel  
APPLICANT: Williams, P. Mickey  
APPLICANT: Wood, William I.  
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
FILE REFERENCE: P2630PIC40  
CURRENT APPLICATION NUMBER: US/10/165,353A  
PRIOR FILING DATE: 2002-10-10  
PRIOR APPLICATION NUMBER: 09/918585  
PRIOR FILING DATE: 2001-07-30  
PRIOR APPLICATION NUMBER: 60/062250  
PRIOR FILING DATE: 1997-10-17  
PRIOR APPLICATION NUMBER: 60/064249  
PRIOR FILING DATE: 1997-11-03  
PRIOR APPLICATION NUMBER: 60/065311  
PRIOR FILING DATE: 1997-11-13  
PRIOR APPLICATION NUMBER: 60/066364  
PRIOR FILING DATE: 1997-11-21  
PRIOR APPLICATION NUMBER: 60/077450  
PRIOR FILING DATE: 1998-03-10  
PRIOR APPLICATION NUMBER: 60/077632  
PRIOR FILING DATE: 1998-03-11  
PRIOR APPLICATION NUMBER: 60/077641  
PRIOR FILING DATE: 1998-03-11  
PRIOR APPLICATION NUMBER: 60/077649  
PRIOR FILING DATE: 1998-03-11  
PRIOR APPLICATION NUMBER: 60/077791  
PRIOR FILING DATE: 1998-03-12  
Remaining Prior Application data removed - See File Wrapper or PALM.  
NUMBER OF SEQ ID NOS: 624  
SEQ ID NO 169  
LENGTH: 802  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-165-353A-169

Query Match 20.2%; Score 470; DB 12; Length 802;  
Best Local Similarity 33.1%; Pred. No. 2.5e-31;  
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS-ICGSHGTCT--DGTGSTRCDTCSGMEFGFCQREKVSFLNSLNGCHCYLGE 112  
DB 448 PCPEFLICVNGILCPACDGVK---DCEPGLDENKVCGRATF-QCKEDS--TCISLPK 499  
QY 113 VGMRRGCAGPYKLGPDLLQCHPAVKPCGRPWKMEKKRSHLK-----DUTE 160  
DB 500 V-----CIGQPCDCLNSDEECQOEGV--FCSTFTFCF--DRSCYKKNPCQDGRPCDGS 552  
QY 161 DOE-----DQVDPRLIDKMTRRGDSPMQVVLDSKKKLACGAVLIHPSWLTAAHMD 214  
DB 553 DEEHODCGLGSPSRIVGAVSSEGEWPMQ--ASLGVGRHICGGLIADRWTITAAHCFQ 611  
QY 215 ESKKILVLEGYDLR-WF--KM--ELDDIKKVFVHNYSKSTTNDIALIHLAQPTL 269  
DB 612 EDMSASTVLTWFLGKVMONSRWPEVSVFVSKLLIHPHEHSDHDYALLQLDHPVVR 671

QY 270 SQTIVPICLPSGLAERELNOAGQETLVGNGYHSRREKAKRNTFVNIKIPVPHN 329  
DB 672 SAARFVCLP-----ARSHFEPGLHNTTNG--ALREGGPISN---ALQKVDVQLIPD 722  
QY 330 ECSEVMNVSSENNLCAGILGRDQACGDSGGPMVA-SFEGTWELVGLVSGSGCGLH 388  
DB 723 LCSBAFVQVTPRLMCGAYRKQKACQDSGGLVCKALSGRWFLAGLVSMGIGCGRPV 782  
QY 389 NYGYTKVSRVLDWT 403  
DB 783 YFGVYTRITGVISWT 797

RESULT 138  
US-10-167-600-169  
Sequence 169, Application US/10167600  
Publication No. US2003020343A1  
GENERAL INFORMATION:  
APPLICANT: Ashkenazi, Avi  
APPLICANT: Baker Kevin P.  
APPLICANT: Botstein, David  
APPLICANT: Deenoyers, Luc  
APPLICANT: Baton, Dan  
APPLICANT: Ferrara, Napoleon  
APPLICANT: Filvaroff, Ellen  
APPLICANT: Fong, Sherman  
APPLICANT: Gao, Wei-Qiang  
APPLICANT: Gerber, Hanspeter  
APPLICANT: Gerritsen, Mary E.  
APPLICANT: Goddard, Audrey  
APPLICANT: Godowski, Paul J.  
APPLICANT: Grimaldi, J. Christopher  
APPLICANT: Gurney, Austin L.  
APPLICANT: Hillan, Kenneth J.  
APPLICANT: Kljavin, Ivar J.  
APPLICANT: Kuo, Sophia S.  
APPLICANT: Napier, Mary A.  
APPLICANT: Pan, James.  
APPLICANT: Paoni, Nicholas F.  
APPLICANT: Roy, Margaret Ann  
APPLICANT: Shelton, David L.  
APPLICANT: Stewart, Timothy A.  
APPLICANT: Tumas, Daniel  
APPLICANT: Williams, P. Mickey  
APPLICANT: Wood, William I.  
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
FILE REFERENCE: P2630PIC35  
CURRENT APPLICATION NUMBER: US/10/167,600  
PRIOR FILING DATE: 2002-12-10  
PRIOR APPLICATION NUMBER: 09/918585  
PRIOR FILING DATE: 2001-07-30  
PRIOR APPLICATION NUMBER: 60/062250  
PRIOR FILING DATE: 1997-10-17  
PRIOR APPLICATION NUMBER: 60/064249  
PRIOR FILING DATE: 1997-11-03  
PRIOR APPLICATION NUMBER: 60/065311  
PRIOR FILING DATE: 1997-11-13  
PRIOR APPLICATION NUMBER: 60/066364  
PRIOR FILING DATE: 1997-11-21  
PRIOR APPLICATION NUMBER: 60/077450  
PRIOR FILING DATE: 1998-03-10  
PRIOR APPLICATION NUMBER: 60/077632  
PRIOR FILING DATE: 1998-03-11  
PRIOR APPLICATION NUMBER: 60/077641  
PRIOR FILING DATE: 1998-03-11  
PRIOR APPLICATION NUMBER: 60/077649  
PRIOR FILING DATE: 1998-03-11  
PRIOR APPLICATION NUMBER: 60/077791  
PRIOR FILING DATE: 1998-03-12  
Remaining Prior Application data removed - See File Wrapper or PALM.  
NUMBER OF SEQ ID NOS: 624  
SEQ ID NO 169

LENGTH: 802  
 TYPE: PRT  
 ORGANISM: Homo sapiens  
 US-10-167-600-169

Query Match 20.2%; Score 470; DB 12; Length 802;

Best Local Similarity 33.1%; Pred. No. 2.5e-31;  
 Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--LCCGHGTCT--DGIGSPCDRCRSGMGRFCQREVSFLNCSLNDGCTHYCLEE 112  
 DB 448 PCGEFLCSYVNLCPACDGVK---DCNGIDERNCCVCRATF-QCKEDS---TCISLPK 499  
 QY 113 VGMRRSCAPGYKLGDDLLQCHPAVYKFCGRPMKMKERKSHLK-----RDTE 160  
 DB 500 V----CDGPDCLNCSDEQCQEGV--PCGTFPQCE--DRSCVKKPNPCDGRDCCDGS 552  
 QY 161 DQF-----DQVDFRLIDGKMTREGDSFWQVVLDSKKKLAGAVLHPSVWLTAAACMD 214  
 DB 553 DEHQDCGLQGPSSRTVGAVSSSEGEPMQ--ASLQVGRRIICGALLADRWITTAACFQ 611  
 QY 215 ESKKLIVRLGEYDLRR--KM--ELDLIKEVFVHPNYSKSTTNDIALHLAOPATL 269  
 DB 612 EDSMASTVLTWVFLGKRWQNSRMPEVSFKVSRLLHPHYEDSHDYVALLQDHPVVR 671  
 QY 270 SQTIVPICLPDGLAERLNDAGQETLVTSKWHSSREKAKRNTFVLFKIPVVPEN 329  
 DB 672 SAAYFPVCLP---ARSHFFEPGLHCWITWG--ALREGGPISN--ALQKVDVQLIPQD 722  
 QY 330 EGSFWSNMVSNMTCAGILSDRODACEGDSGSPVVA--SPHGTFVLVGVSGCGCLLH 388  
 DB 723 LCESEYRYQVTPRMTCAGYRKQKDCQDGSGLVCKALSGRFLAGLVSGLGCGRPN 782  
 QY 389 NYGVYTKVSRYLDMI 403  
 DB 783 YFGVYTRITGVISMI 797

# RESULT 139

US-10-170-481A-169

Sequence 169, Application US/10170481A

Publication No. US20030203444A1

GENERAL INFORMATION:

APPLICANT: Ashkenazi, Avi  
 APPLICANT: Baker Kevin P.  
 APPLICANT: Botstein, David  
 APPLICANT: Desnoyers, Luc  
 APPLICANT: Eaton, Dan  
 APPLICANT: Ferrara, Napoleon  
 APPLICANT: Filvaroff, Ellen  
 APPLICANT: Fong, Sherman  
 APPLICANT: Gao, Wei-Qiang  
 APPLICANT: Gerber, Hanspeter  
 APPLICANT: Geritsen, Mary E.  
 APPLICANT: Goddard, Audrey  
 APPLICANT: Godowski, Paul J.  
 APPLICANT: Grimaldi, J. Christopher  
 APPLICANT: Gurney, Austin L.  
 APPLICANT: Hillan, Kenneth J.  
 APPLICANT: Kijavain, Ivar J.  
 APPLICANT: Kuo, Sophia S.  
 APPLICANT: Nepier, Mary A.  
 APPLICANT: Pan, James  
 APPLICANT: Paoli, Nicholas F.  
 APPLICANT: Roy, Margaret Ann  
 APPLICANT: Shelton, David L.  
 APPLICANT: Stewart, Timothy A.  
 APPLICANT: Tunas, Daniel  
 APPLICANT: Williams, P. Mickey  
 APPLICANT: Wood, William I.  
 TITLE OF INVENTION: Secreted and Transmembrane polypeptides and Nucleic  
 FILE REFERENCE: P2630P1C53

CURRENT APPLICATION NUMBER: US/10/170,481A

CURRENT FILING DATE: 2002-10-10

PRIOR APPLICATION NUMBER: 09/918585

PRIOR FILING DATE: 2001-07-30

PRIOR APPLICATION NUMBER: 60/062250

PRIOR FILING DATE: 1997-10-17

PRIOR APPLICATION NUMBER: 60/064249

PRIOR FILING DATE: 1997-11-03

PRIOR APPLICATION NUMBER: 60/065311

PRIOR FILING DATE: 1997-11-13

PRIOR APPLICATION NUMBER: 60/066364

PRIOR FILING DATE: 1997-11-21

PRIOR APPLICATION NUMBER: 60/074450

PRIOR FILING DATE: 1998-03-10

PRIOR APPLICATION NUMBER: 60/07632

PRIOR FILING DATE: 1998-03-11

PRIOR APPLICATION NUMBER: 60/077641

PRIOR FILING DATE: 1998-03-11

PRIOR APPLICATION NUMBER: 60/077649

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PRIOR FILING DATE: 1998-03-12

PRIOR APPLICATION NUMBER: 60/077791

PRIOR FILING DATE: 1998-03-12



NUMBER OF SEQ ID NOS: 624  
 SEQ ID NO 169  
 LENGTH: 802  
 TYPE: PRT  
 ORGANISM: Homo sapiens  
 US-10-210-028-169

Query Match 20.2%; Score 470; DB 12; Length 802;  
 Best Local Similarity 33.1%; Pred. No. 2.5e-31;  
 Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--LCCGHTCT---DGIQSFSCDGRSGMGRFCQREVSFLNGLDNGGCTHYCLEE 112  
 DB 448 PCGPEFLCSVNGLCVPACDGVK---DCPNGLDERNCVCRAFF-QCKEDS---TCISLPK 499  
 QY 113 VGMRCSCAPGYKLGDDLLQCHPAVKFPCGRPMKMEKRSHLK-----RDTE 160  
 DB 500 V----CDGQPDCLNGSDDEQCOEGV--PCGTFPQCE-DRCVKKPNPCDGRPDGRDGS 552  
 QY 161 DOE-----DQVDPRLIDGKMTRRGDSFWQVYLLDSKKKLACGAVLIHPSWVLTAAHOMD 214  
 DB 553 DEEHDCGLQGPSSRIIVGAVSSESEMPWQ-ASLQVRGRHICGALILADRWTITAAHCFQ 611  
 QY 215 ESKKLVLVAGEYDLAR-WE--KX--ELDLIXEVFVHPNYSKSTTNDIALHLAOPATL 269  
 DB 612 EDSMASTVMTVFLGKWMQNSRMPGEVSFKVSRLLHPYHEDSHDYVALLQDHPVVR 671  
 QY 270 SQTIVPCLPDSGLARELNQAGETLVYTGWYHSREKAKRRTVNLFIKIVPVPHN 329  
 DB 672 SAAYRVPCLP---ARSHFFEPGLHCWITGNG--ALREGGPISN--ALQKVDVQILPQD 722  
 QY 330 ECSEVSNMVSNNMLCAGILGDRDACEGDSGGPMVA-SFHGTFLVGLVSWGEGCGLIH 388  
 DB 723 LCEAVRYQVTPRMICAGYRKAKDCQDSGGLVCKALSGRWFLGLVSWGLGCGRPN 782  
 QY 389 NYGVYTKVSRYLDMT 403  
 DB 783 YFGVYTRITGVISWT 797

# RESULT 142

US-10-017-081A-169  
 Sequence 169, Application US/10017081A  
 Publication No. US20030049684A1  
 GENERAL INFORMATION:  
 APPLICANT: Ashkenazi, Avi  
 APPLICANT: Baker Kevin P.  
 APPLICANT: Botstein, David  
 APPLICANT: Desnoyers, Luc  
 APPLICANT: Eaton, Dan  
 APPLICANT: Ferrara, Napoleon  
 APPLICANT: Filvaroff, Ellen  
 APPLICANT: Fong, Sherman  
 APPLICANT: Gao, Wei-Qiang  
 APPLICANT: Gerber, Hanspeter  
 APPLICANT: Gertlisen, Mary E.  
 APPLICANT: Goddard, Audrey  
 APPLICANT: Grimaldi, Paul J.  
 APPLICANT: Gurney, Austin L.  
 APPLICANT: Hillan, Kenneth J.  
 APPLICANT: Kijavlin, Ivar J.  
 APPLICANT: Kuo, Sophia S.  
 APPLICANT: Napier, Mary A.  
 APPLICANT: Pan, James  
 APPLICANT: Paoni, Nicholas F.  
 APPLICANT: Roy, Margaret Ann  
 APPLICANT: Shelton, David L.  
 APPLICANT: Stewart, Timothy A.  
 APPLICANT: Tumas, Daniel  
 APPLICANT: Williams, P. Mickey  
 APPLICANT: Wood, William I.  
 TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic

TITLE OF INVENTION: Acids Encoding the Same  
 FILE REFERENCE: P2610P1C69  
 CURRENT APPLICATION NUMBER: US/10/017,081A  
 CURRENT FILING DATE: 2002-04-30  
 Prior application removed - See file wrapper or Palm  
 NUMBER OF SEQ ID NOS: 624  
 SEQ ID NO 169  
 LENGTH: 802  
 TYPE: PRT  
 ORGANISM: Homo sapiens  
 US-10-017-081A-169

Query Match 20.2%; Score 470; DB 14; Length 802;  
 Best Local Similarity 33.1%; Pred. No. 2.5e-31;  
 Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--LCCGHTCT---DGIQSFSCDGRSGMGRFCQREVSFLNGLDNGGCTHYCLEE 112  
 DB 448 PCGPEFLCSVNGLCVPACDGVK---DCPNGLDERNCVCRAFF-QCKEDS---TCISLPK 499  
 QY 113 VGMRCSCAPGYKLGDDLLQCHPAVKFPCGRPMKMEKRSHLK-----RDTE 160  
 DB 500 V----CDGQPDCLNGSDDEQCOEGV--PCGTFPQCE-DRCVKKPNPCDGRPDGRDGS 552  
 QY 161 DOE-----DQVDPRLIDGKMTRRGDSFWQVYLLDSKKKLACGAVLIHPSWVLTAAHOMD 214  
 DB 553 DEEHDCGLQGPSSRIIVGAVSSESEMPWQ-ASLQVRGRHICGALILADRWTITAAHCFQ 611  
 QY 215 ESKKLVLVAGEYDLAR-WE--KX--ELDLIXEVFVHPNYSKSTTNDIALHLAOPATL 269  
 DB 612 EDSMASTVMTVFLGKWMQNSRMPGEVSFKVSRLLHPYHEDSHDYVALLQDHPVVR 671  
 QY 270 SQTIVPCLPDSGLARELNQAGETLVYTGWYHSREKAKRRTVNLFIKIVPVPHN 329  
 DB 672 SAAYRVPCLP---ARSHFFEPGLHCWITGNG--ALREGGPISN--ALQKVDVQILPQD 722  
 QY 330 ECSEVSNMVSNNMLCAGILGDRDACEGDSGGPMVA-SFHGTFLVGLVSWGEGCGLIH 388  
 DB 723 LCEAVRYQVTPRMICAGYRKAKDCQDSGGLVCKALSGRWFLGLVSWGLGCGRPN 782  
 QY 389 NYGVYTKVSRYLDMT 403  
 DB 783 YFGVYTRITGVISWT 797

# RESULT 143

US-10-167-749-169  
 Sequence 169, Application US/10167749  
 Publication No. US20030056137A1  
 GENERAL INFORMATION:  
 APPLICANT: Ashkenazi, Avi  
 APPLICANT: Baker Kevin P.  
 APPLICANT: Botstein, David  
 APPLICANT: Desnoyers, Luc  
 APPLICANT: Eaton, Dan  
 APPLICANT: Ferrara, Napoleon  
 APPLICANT: Filvaroff, Ellen  
 APPLICANT: Fong, Sherman  
 APPLICANT: Gao, Wei-Qiang  
 APPLICANT: Gerber, Hanspeter  
 APPLICANT: Gertlisen, Mary E.  
 APPLICANT: Goddard, Audrey  
 APPLICANT: Grimaldi, Paul J.  
 APPLICANT: Gurney, Austin L.  
 APPLICANT: Hillan, Kenneth J.  
 APPLICANT: Kijavlin, Ivar J.  
 APPLICANT: Kuo, Sophia S.  
 APPLICANT: Napier, Mary A.  
 APPLICANT: Pan, James  
 APPLICANT: Paoni, Nicholas F.  
 APPLICANT: Roy, Margaret Ann  
 APPLICANT: Shelton, David L.



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; APPLICANT: Stewart, Timothy A.
; APPLICANT: Tumas, Daniel
; APPLICANT: Williams, P. Mickey
; APPLICANT: Wood, William I.
; TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
; FILE REFERENCE: P2630PIC60
; CURRENT APPLICATION NUMBER: US/10/167,749
; PRIOR APPLICATION NUMBER: 2001-10-19
; PRIOR APPLICATION NUMBER: 09/918585
; PRIOR FILING DATE: 2001-07-30
; PRIOR APPLICATION NUMBER: 60/062250
; PRIOR FILING DATE: 1997-10-17
; PRIOR APPLICATION NUMBER: 60/064249
; PRIOR FILING DATE: 1997-11-03
; PRIOR APPLICATION NUMBER: 60/065311
; PRIOR FILING DATE: 1997-11-13
; PRIOR APPLICATION NUMBER: 60/066364
; PRIOR FILING DATE: 1997-11-21
; PRIOR APPLICATION NUMBER: 60/077450
; PRIOR FILING DATE: 1998-03-10
; PRIOR APPLICATION NUMBER: 60/077632
; PRIOR FILING DATE: 1998-03-11
; PRIOR APPLICATION NUMBER: 60/077641
; PRIOR FILING DATE: 1998-03-11
; PRIOR APPLICATION NUMBER: 60/077649
; PRIOR FILING DATE: 1998-03-11
; PRIOR APPLICATION NUMBER: 60/077791
; PRIOR FILING DATE: 1998-03-12
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 624
; SEQ ID NO 169
; LENGTH: 802
; TYPE: prt
; ORGANISM: Homo sapiens
US-10-167-749-169

Query Match          20.2%; Score 470; DB 14; Length 802;
Best Local Similarity 33.1%; Pred. No. 2,5e-31;
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--LCCGAGTCT--DGISFSCDCRSQSGRFGQREVSFLNCSJLNDGGCTHYCLRE 112
DB 448 PCGEPLCSVNGLCVPACDGVK----DCPNGLDBRNCVCRAF--QCKEDS---TCISLTK 499
QY 113 VGMRRSCAPGYKIGDILLQCHAYVFPQGRPMWGMKRSKSHK-----RDTE 160
DB 500 V---CDGQPDCLNGSDEQCQEGV--PGGFTFQCE-DKSCVKKPNQCDGREDCRDGS 552
QY 161 DOE-----DQVDPRLIDGKMTTRGDSFQVQVLLDSKKKLAGAVLIHPSVWLTAAHAMD 214
DB 553 DEHCOCGLQGHSSSLVIGAVSSEGMFWQ--ASIQVARGRIICGALLADRVITAAHCFQ 611
QY 215 ESKKLVLRLGEYDLRR--KW--ELDIDIKVFPVHPNYSKSTTDNDIALHLAOPATL 269
DB 612 EDMSASTVMTVFLKQWNSRWPGEVSFKSRLLHPYHEEDSHDYVALLQIDHVPVR 671
QY 270 SQITVPICLPDGSLAERELNAGQETLVNMGVYSSEKAKKRNTPVFNIXKIPVPPN 329
DB 672 SAAYRVYCLP---ARSHFEPGLHGWITGNG--ALMBEGPISN--ALQKVYQVLIPOD 722
QY 330 ECSEVSNMVSSENLCAIGLRQDACEGDSGGMVVA--SPHGTPVLVGLVSWERGCGLLH 388
DB 723 LCSEAVRYQVTPRLCAQYRKGGKACQGDSCGPLVCKALSGRMFLAGVSMGLGCGRRN 782
QY 389 NYGYTKVSRYLDNI 403
DB 783 YFGYTRITGITVSWI 797

RESULT 144
US-10-013-921A-169
; Sequence 169, Application US/10013921A
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; Publication No. US20030068648A1
; GENERAL INFORMATION:
; APPLICANT: Ashkenazi, Avi
; APPLICANT: Baker Kevin P.
; APPLICANT: Botstein, David
; APPLICANT: Desnoyers, Luc
; APPLICANT: Eaton, Dan
; APPLICANT: Ferrara, Napoleon
; APPLICANT: Filvaroff, Ellen
; APPLICANT: Fong, Sherman
; APPLICANT: Gao, Wei-Qiang
; APPLICANT: Gerber, Hanspeter
; APPLICANT: Gerritsen, Mary E.
; APPLICANT: Goddard, Audrey
; APPLICANT: Grimaldi, J. Christopher
; APPLICANT: Gurney, Austin L.
; APPLICANT: Hillan, Kenneth J
; APPLICANT: Kijavini, Ivar J.
; APPLICANT: Kuo, Sophia S.
; APPLICANT: Napier, Mary A.
; APPLICANT: Pan, James
; APPLICANT: Paoni, Nicholas F.
; APPLICANT: Roy, Margaret Ann
; APPLICANT: Shelton, David L.
; APPLICANT: Stewart, Timothy A.
; APPLICANT: Tumas, Daniel
; APPLICANT: Williams, P. Mickey
; APPLICANT: Wood, William I.
; TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
; FILE REFERENCE: P2630PIC84
; CURRENT APPLICATION NUMBER: US/10/013,921A
; PRIOR FILING DATE: 2002-03-19
; PRIOR APPLICATION NUMBER: 09/918585
; PRIOR FILING DATE: 2001-07-30
; PRIOR APPLICATION NUMBER: 60/062250
; PRIOR FILING DATE: 1997-10-17
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PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085573  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085704  
PRIOR FILING DATE: 1998-05-15  
PRIOR APPLICATION NUMBER: 60/085697

Query Match 20.2%; Score 470; DB 14; Length 802;

Best Local Similarity 33.1%; Pred. No. 2.5e-31; Indels 54; Gaps 18;

Matches 124; Conservative 52; Mismatches 145;

58 PCAS--LCGAGTCT---DGTGFSODRSGMERFQGEVSEFLNCSLDNGGCTHYGLEE 112  
448 PCGEFLCVCNGLCPACDGYK---DCPNGLDRNVCGRATF-QCKEDS---TCSLTK 499  
113 VGNRRCSGAPGYKLQDDLLQCHPAYKFCGRPMWRMEKRSLLK-----RDTTE 160  
500 V---CDGQPDCLNGSDEQCQEGV--FCGTFPQCE-DRS CVKKNPQCDGRPDRDGS 552  
161 DQF-----DQVDRILDGKMTREDSFPOVYLLDSKKLLAGAVLHPSVYLAHNCMD 214  
553 DEHDCDGLGPFSSIVGAVSSGSEWPO-ASLQVGRHICGALINDRVYIAHCFQ 611  
215 ESKLLVRLGEYDLRR-WE--KW--ELDDIKEFVHPNYSKSTTDNDIALHIAQPATL 269  
612 EDSKSLVMTVFLGKWKQNSRWPGSVFKNVRLHLHPYHEEDSDYVALLDQDHPVVR 671

QY 270 SCITVCLIPDGLAEELNQAQOETLVGNGYSSSEKAKRRTFVNLKIPVPHN 329  
Db 672 SAAVFPVCLP-----ARSHFEPGJHCWITGMC--ALNEGSPISN---ALQKVDVQLIPD 722  
QY 330 ECSEFVSNVNSVSENMICAGITLGDQDCEDDSGCPMVA-SPHGTWPLVGLVSMGEGGLH 388  
Db 723 LCSEAVRYQVTPRMCAGYRKGKXKDCQDSGCPVCKALSGRWFAGLVSMTGCGGRN 782  
QY 389 NGVYTKVSRVLDMT 403  
Db 783 YFGYTRITGVLSMT 797  
RESULT 145  
US-10-013-929A-169  
; Sequence 169, Application US/10013929A  
; Publication No. US2003007245A1  
; GENERAL INFORMATION:  
; APPLICANT: Ashkenazi, Avi  
; APPLICANT: Baker Kevin P.  
; APPLICANT: Botstein, David  
; APPLICANT: Desnoyers, Luc  
; APPLICANT: Eaton, Dan  
; APPLICANT: Ferrara, Napoleon  
; APPLICANT: Filvaroft, Ellen  
; APPLICANT: Fong, Sherman  
; APPLICANT: Gao, Wei-Qiang  
; APPLICANT: Gerber, Hanspeter  
; APPLICANT: Gerltsen, Mary E.  
; APPLICANT: Goddard, Audrey  
; APPLICANT: Godowski, Paul J.  
; APPLICANT: Grimaldi, J. Christopher  
; APPLICANT: Gurney, Austin L.  
; APPLICANT: Hillan, Kenneth J.  
; APPLICANT: Kijaviri, Ivar J.  
; APPLICANT: Kuo, Sophie S.  
; APPLICANT: Napier, Mary A.  
; APPLICANT: Pan, James;  
; APPLICANT: Paoni, Nicholas F.  
; APPLICANT: Roy, Margaret Ann  
; APPLICANT: Shelton, David L.  
; APPLICANT: Stewart, Timothy A.  
; APPLICANT: Tuma, Daniel  
; APPLICANT: Williams, P. Mickey  
; APPLICANT: Wood, William I.  
; TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
; FILE REFERENCE: P2630PIC89  
; CURRENT APPLICATION NUMBER: US/10/013, 929A  
; CURRENT FILING DATE: 2002-03-19  
; PRIOR APPLICATION NUMBER: 09/918585  
; PRIOR FILING DATE: 2001-07-30  
; PRIOR APPLICATION NUMBER: 60/062250  
; PRIOR FILING DATE: 1997-10-17  
; PRIOR APPLICATION NUMBER: 60/064249  
; PRIOR FILING DATE: 1997-11-03  
; PRIOR APPLICATION NUMBER: 60/065311  
; PRIOR FILING DATE: 1997-11-13  
; PRIOR APPLICATION NUMBER: 60/066364  
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; PRIOR APPLICATION NUMBER: 60/078004  
; PRIOR FILING DATE: 1998-03-13

; PRIOR APPLICATION NUMBER: 60/078886  
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; PRIOR FILING DATE: 1998-05-15
; PRIOR APPLICATION NUMBER: 60/085697
; PRIOR APPLICATION NUMBER: 60/085697

Query Match      20.2%; Score 470; DB 14; Length 802;
Best Local Similarity 33.1%; Pred. No. 2.5e-31;
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Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;
QY 58 PCAS--LCCGCTC---DTCGSCCGRSGMGRFCQREVSFLNGLDNGCCTHCEE 112
Db 448 PCGGRFLCSVNGLCVACDGVK---DPCNGDLBERVCVRATF-QCKEDS---TCISLPR 499
QY 113 VCMRRCSGAPGYLGGDILQCHPAVKPCGRPKMKREKKRSHLK-----RDTE 160
Db 500 V----CGQPDCLNGSDDEQCQEGV--PCGTFPFQCE--DRSCVKENPQCDGRPDGRDS 552
QY 161 DCE-----DQVDPRLIDSKMTRRSGDSPQVLLDSKKKLAGVLIHPSWVLTAAHCD 214
Db 553 DEHDHDCGLQGPSRSLTVGAVSSEGMWQ--ASLQVRGHHICGALLADRWVITAAHCQ 611
QY 215 ESKKLLVRLGTYDIR--KW--ELDLDIKVFVHPYHSKSTTDVLLHLAQPATL 269
Db 612 EDSMASVLTWTFPLGKWONSMPGEVSFVSRLLIHPHEDSHDVALLOLHPVVR 671
QY 270 SQTIVICLPDSGLARELNOAQGETLVTGMGYHSSREKEARRRFTVLNFIKIPVPHN 329
Db 672 SAANRVLCP---ASHFFRGLHCWTGNG--ALRBGPISN---ALQKDVQILIPD 722
QY 330 ECEVMSNMVSENNLCAGILSDRQACEGDSGSPMYA--SFHGTWFLVGLVSWEGCGLIH 388
Db 723 LCEAVRYQVTPPMLCAGYKKGKDCQCGDSGPIVCKALSGRWFAGLVSMGLGCGPN 782
QY 389 NNGVYTXSRYLQWI 403
Db 783 YRGVYTRITGVISWT 797

RESULT 146
US-10-016-177A-169
; Sequence 169, Application US/10016177A
; Publication No. US20030073131A1
; GENERAL INFORMATION:
; APPLICANT: Ashkenazi, Avi
; APPLICANT: Baker Kevin P.
; APPLICANT: Botstein, David
; APPLICANT: Desnoyers, Luc
; APPLICANT: Eaton, Dan
; APPLICANT: Ferrara, Napoleon
; APPLICANT: Filvaroff, Ellen
; APPLICANT: Fong, Sherman
; APPLICANT: Gao, Wei-Qiang
; APPLICANT: Gerber, Hanspeter
; APPLICANT: Gerritsen, Mary E.
; APPLICANT: Goddard, Audrey
; APPLICANT: Godowski, Paul J.
; APPLICANT: Grimaldi, J. Christopher
; APPLICANT: Guirey, Austin L.
; APPLICANT: Hillan, Kenneth J.
; APPLICANT: Kijavitt, Ivar J.
; APPLICANT: Kuo, Sophia S.
; APPLICANT: Napier, Mary A.
; APPLICANT: Pan, James;
; APPLICANT: Paoni, Nicholas F.
; APPLICANT: Roy, Margaret Ann
; APPLICANT: Shelton, David L.
; APPLICANT: Stewart, Timothy A.
; APPLICANT: Thomas, Daniel
; APPLICANT: Williams, P. Mickey
; APPLICANT: Wood, William I.
; TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
; FILE REFERENCE: P2630P1C90
; CURRENT APPLICATION NUMBER: US/10/016,177A
; CURRENT FILING DATE: 2002-04-30
; Prior application removed - See File Wrapper or Palm
; NUMBER OF SEQ ID NOS: 624
; SEQ ID NO 169
; LENGTH: 802
; TYPE: PRT
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ORGANISM: Homo sapiens  
US-10-016-177A-169

Query Match 20 2%; Score 470; DB 14; Length 802;  
Best Local Similarity 33.1%; Pred. No. 2.5e-31;  
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--LCGHGTCT--DGISFSCDCRSMEGRFCQREVSFLNCSLNDNGCTHYCEE 112  
DB 448 PCGGEHCSVNGLCVPCACGVK---DCPNGLBERNCVGRATF-QCEKDS--TCSLPK 499  
QY 113 VGMRRCSAPGKYLGDLLQCHPAKPCGCPMKMEKRSHLK-----RDTE 160  
DB 500 V---CDGQPDCLNGSDECCQBGV--PCGTFHFGCE--RSCVKKPMQCDGRPCDQDS 552  
QY 161 DOE-----DQVDELIDGKMTRRDSDPMQVLLDSKKLACGAVLHPSWTAAHCD 214  
DB 553 DEHCHDCGLQCPSSRTIGAVSSEGEWPMQ--ASLQVRGHICGGLLADRWVTTAAHCGQ 611  
QY 215 ESKKLLVRLAGEYDLRR--WV--ELDLIKEVFNPNYSKSTTNDIALHLAQPATL 269  
DB 612 EDSMASTVLTWTFVLGKXWQNSRMPGEVSEFKYSRLHLHPYHEDSHDVALQLDHPYVR 671  
QY 270 SCITVPLCLDPSGLAEHLNQAGETVTKGTHSSREKAKRNFVLNFIKIPVPHN 329  
DB 672 SAARVYCLP---ARSHFEFGELCMWTGWG--ALREGGPLSN---ALQKVYQLIPQD 722  
QY 330 ECSEVSNMVSNNMLCAGILGRDACEGDSGCPMYA--SFHGTFVLGLVSMGEGCGLH 388  
DB 723 LCSEARVYVTPRMCLCGYKAKKQACQDSGGPLVCKLISGRWMLAGLVSMGLSGGRPN 782  
QY 389 NYGVYKVSRYLDWI 403  
DB 783 YFGVYTRITGVISWI 797

RESULT 147  
US-10-166-709A-169  
Sequence 169, Application US/10166709A  
Publication No. US20030104536A1  
GENERAL INFORMATION:  
APPLICANT: Ashkenazi, Avi  
APPLICANT: Baker Kevin P.  
APPLICANT: Botstein, David  
APPLICANT: Desnoyers, Luc  
APPLICANT: Ratton, Dan  
APPLICANT: Ferrara, Napoleon  
APPLICANT: Filvaroff, Ellen  
APPLICANT: Fong, Sherman  
APPLICANT: Gao, Wei-Qiang  
APPLICANT: Gerber, Hanspeter  
APPLICANT: Gerlitsen, Mary E.  
APPLICANT: Goddard, Audrey  
APPLICANT: Grimaldi, Paul J.  
APPLICANT: Gurley, Austin L.  
APPLICANT: Hillan, Kenneth J.  
APPLICANT: Kijavira, Ivar J.  
APPLICANT: Kuo, Sophia S.  
APPLICANT: Napier, Mary A.  
APPLICANT: Pan, James  
APPLICANT: Paoni, Nicholas F.  
APPLICANT: Roy, Margaret Ann  
APPLICANT: Shelton, David L.  
APPLICANT: Stewart, Timothy A.  
APPLICANT: Thomas, Daniel  
APPLICANT: Williams, P. Mickey  
APPLICANT: Wood, William I.  
TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic  
FILE OF INVENTION: Acids Encoding the Same  
FILE REFERENCE: P2630P1C59  
CURRENT APPLICATION NUMBER: US/10166, 709A  
CURRENT FILING DATE: 2001-10-19

PRIOR APPLICATION NUMBER: 09/918585  
PRIOR FILING DATE: 2001-07-30  
PRIOR APPLICATION NUMBER: 60/062250  
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/ PRIOR FILING DATE: 1998-05-13

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/ PRIOR APPLICATION NUMBER: 60/085573
/ PRIOR FILING DATE: 1998-05-15
/ PRIOR APPLICATION NUMBER: 60/085704
/ PRIOR FILING DATE: 1998-05-15
/ PRIOR APPLICATION NUMBER: 60/085697

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Query Match 20.2%; Score 470; DB 14; Length 802;

Best Local Similarity 33.1%; Pred. No. 2.5e-31; Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

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DB 448 PCGEPLCSVNLCPACDGVK---DCPNGLDBRCVCRAFF-QCKEDS---TCISLPEK 499
QY 113 VGRKSCGAPGKIGDILQCHPAKPCGPRPKRKKRSHLK-----RDPE 160
DB 500 V---CDQPDCLNGSBEQCOEYV--PCGFTTFQCE-DRSCVKKPNPQCDGRPDGRDS 552
QY 161 DQE-----DQVDEPLIDGKMTTRGDSFWQVLLIDSKKKLACGAVLTHPSVVLTAACMD 214
DB 553 DEHCDGCGIGPSSRIYVGANVSEGEPMQ-ASLQVRGHLICGALLADSMVITAAHCQ 611
QY 215 ESKKLIVLGEYDLRR-WE--ELDLDIKYFVHPYVSKSTINDIALHLAPATL 269
DB 612 EDMASTVLTWTFVLGKQWQSRMPEVSVFKVSRLLHPHEHSDHYDVALDLDPVVR 671
QY 270 SQITVPLICPSGLAEELNOAGQETLVTVGWYHSREKAEKRNFTVLFKIPVPPHN 329
DB 672 SAARFVCLP---ARSHFPEGLHCWITWG--ALRBGPISN---ALQKVDVQILPDD 722
QY 330 ECEVSMVMVSENNLCAGLIDRODACDCEGSGGPMYA-SFHGTWFLVGLVSMGCGGLH 388
DB 723 LGEAVRYQVTPMLCGYKKGKXKQACGDSGPIVCALSGKFTLAGLVSMGLCGGRPN 782
QY 389 NYGYTKVSRILDWI 403
DB 783 YFQVYTRITGVISWI 797

RESULT 148
US-10-143-031A-169
/ Sequence 169, Application US/10143031A
/ Publication No. US20030138439A1
/ GENERAL INFORMATION:
/ APPLICANT: Ashkenazi, Avi
/ APPLICANT: Baker Kevin P.
/ APPLICANT: Botstein, David
/ APPLICANT: Desnoyers, Luc
/ APPLICANT: Eaton, Dan
/ APPLICANT: Ferrara, Napoleon
/ APPLICANT: Filvaroff, Ellen
/ APPLICANT: Fong, Sherman
/ APPLICANT: Gao, Wei-Qiang
/ APPLICANT: Gerber, Hanspeter
/ APPLICANT: Gertlisen, Mary E.
/ APPLICANT: Goddard, Audrey
/ APPLICANT: Godowski, Paul J.
/ APPLICANT: Grimaldi, J. Christopher
/ APPLICANT: Gunney, Austin L.

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? APPLICANT: Hillan, Kenneth J
? APPLICANT: Kljavin, Ivar J.
? APPLICANT: Kuo, Sophia S.
? APPLICANT: Napier, Mary A.
? APPLICANT: Pan, James;
? APPLICANT: Paoni, Nicholas F.
? APPLICANT: Roy, Margaret Ann
? APPLICANT: Shelton, David L.
? APPLICANT: Stewart, Timothy A.
? APPLICANT: Thomas, Daniel
? APPLICANT: Williams, P. Mickey
? APPLICANT: Wood, William I.
? TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
? FILE REFERENCE: P2630PIC39
? CURRENT APPLICATION NUMBER: US/10/143,031A
? CURRENT FILING DATE: 2002-10-10
? PRIOR APPLICATION NUMBER: 09/918585
? PRIOR FILING DATE: 2001-07-30
? PRIOR APPLICATION NUMBER: 60/062250
? PRIOR FILING DATE: 1997-10-17
? PRIOR APPLICATION NUMBER: 60/064249
? PRIOR FILING DATE: 1997-11-03
? PRIOR APPLICATION NUMBER: 60/065311
? PRIOR FILING DATE: 1997-11-13
? PRIOR APPLICATION NUMBER: 60/066364
? PRIOR FILING DATE: 1997-11-21
? PRIOR APPLICATION NUMBER: 60/077450
? PRIOR FILING DATE: 1998-03-10
? PRIOR APPLICATION NUMBER: 60/077632
? PRIOR FILING DATE: 1998-03-11
? PRIOR APPLICATION NUMBER: 60/077641
? PRIOR FILING DATE: 1998-03-11
? PRIOR APPLICATION NUMBER: 60/077649
? PRIOR FILING DATE: 1998-03-11
? PRIOR APPLICATION NUMBER: 60/077791
? PRIOR FILING DATE: 1998-03-12
? Remaining Prior Application data removed - See File Wrapper or PALM.
? NUMBER OF SEQ ID NOS: 624
? SEQ ID NO 169
? LENGTH: 802
? TYPE: PRT
? ORGANISM: Homo sapiens
US-10-143-031A-169

Query Match          20.2%; Score 470; DB 14; Length 802;
Best Local Similarity 33.1%; Pred. No. 2.5e-31;
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

QY 58 PCAS--LCCGHTCI---DGISSFSCDCRSQMGRCRCOREVSLNCSIDNGGCTHYCLEE 112
DB 448 PCGPELCSNVGLCVPAQGVK---DCPNGLDERNCVCRAFP-QCKEDS---TCISLPK 499
QY 113 VGMRRSCAPGKYLGDLLQCHPAKFPCKPKMEKKRSLK-----RDTE 160
DB 500 V---CDGQPCPLNGSDEECQEGV--PCGFTTFOCE-DRSCVKKPNPOCDGRPDRCDS 552
QY 161 DDE-----DQVDPRLIDGKTRRGDSFMQVLLDSKKLACGAVLHPMSVLTAAHCD 214
DB 553 DEHDCDCGLQGPSSRIYGVANVSSEBEMPMQ-ASIQRGHITGGLIADNMTVTAHNCQ 611
QY 215 ESKKLLVRLGSEDLRR-WB--KW--ELDLIKEYFVHPVYSKSTTDNDIALHIAOPATL 269
DB 612 EDSMSTVLTWTFVLGKVMQNSRMPGEVSFKYSRLIAPHYEDSHDYVALLQDHPVVR 671
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DB 672 SAAYRVCIP---ARSHFPEPLCHWTWG--ALREGQPSLN---ALQKVYVQLIPD 722
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RESULT 149
US-10-143-030A-169
? Sequence 169, Application US/10143030A
? Publication No. US20030147901A1
? GENERAL INFORMATION:
? APPLICANT: Ashtenazi, Avi
? APPLICANT: Baker Kevin P.
? APPLICANT: Botstein, David
? APPLICANT: Desnoyers, Luc
? APPLICANT: Eaton, Dan
? APPLICANT: Ferrara, Napoleon
? APPLICANT: Filvaroff, Ellen
? APPLICANT: Fong, Sherman
? APPLICANT: Gao, Wei-Qiang
? APPLICANT: Gerber, Hanspeter
? APPLICANT: Gerltsen, Mary E.
? APPLICANT: Goddard, Audrey
? APPLICANT: Godowski, Paul J.
? APPLICANT: Grimaldi, J. Christopher
? APPLICANT: Gurney, Austin L.
? APPLICANT: Hillan, Kenneth J
? APPLICANT: Kljavin, Ivar J.
? APPLICANT: Kuo, Sophia S.
? APPLICANT: Napier, Mary A.
? APPLICANT: Pan, James;
? APPLICANT: Paoni, Nicholas F.
? APPLICANT: Roy, Margaret Ann
? APPLICANT: Shelton, David L.
? APPLICANT: Stewart, Timothy A.
? APPLICANT: Thomas, Daniel
? APPLICANT: Williams, P. Mickey
? APPLICANT: Wood, William I.
? TITLE OF INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
? FILE REFERENCE: P2630PIC39
? CURRENT APPLICATION NUMBER: US/10/143,030A
? CURRENT FILING DATE: 2002-08-27
? PRIOR APPLICATION NUMBER: 09/918585
? PRIOR FILING DATE: 2001-07-30
? PRIOR APPLICATION NUMBER: 60/062250
? PRIOR FILING DATE: 1997-10-17
? PRIOR APPLICATION NUMBER: 60/064249
? PRIOR FILING DATE: 1997-11-03
? PRIOR APPLICATION NUMBER: 60/065311
? PRIOR FILING DATE: 1997-11-13
? PRIOR APPLICATION NUMBER: 60/066364
? PRIOR FILING DATE: 1997-11-21
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? PRIOR APPLICATION NUMBER: 60/077649
? PRIOR FILING DATE: 1998-03-11
? PRIOR APPLICATION NUMBER: 60/077791
? PRIOR FILING DATE: 1998-03-12
? Remaining Prior Application data removed - See File Wrapper or PALM.
? NUMBER OF SEQ ID NOS: 624
? SEQ ID NO 169
? LENGTH: 802
? TYPE: PRT
? ORGANISM: Homo sapiens
US-10-143-030A-169

Query Match          20.2%; Score 470; DB 14; Length 802;
Best Local Similarity 33.1%; Pred. No. 2.5e-31;
Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;
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2	PRIOR FILING DATE: 1997-11-13
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12	PRIOR FILING DATE: 1998-03-11
13	PRIOR APPLICATION NUMBER: 60/077791
14	PRIOR FILING DATE: 1998-03-12
15	PRIOR APPLICATION NUMBER: 60/078004
16	PRIOR FILING DATE: 1998-03-13
17	PRIOR APPLICATION NUMBER: 60/078886
18	PRIOR FILING DATE: 1998-03-20
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20	PRIOR FILING DATE: 1998-03-20
21	PRIOR APPLICATION NUMBER: 60/078910
22	PRIOR FILING DATE: 1998-03-20
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66	PRIOR FILING DATE: 1998-04-08
67	PRIOR APPLICATION NUMBER: 60/081203
68	PRIOR FILING DATE: 1998-04-09
69	PRIOR APPLICATION NUMBER: 60/081229
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71	PRIOR APPLICATION NUMBER: 60/081955
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? PRIOR FILING DATE: 1998-04-15  
 ? PRIOR APPLICATION NUMBER: 60/081819  
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 ? PRIOR FILING DATE: 1998-05-15

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 ? PRIOR APPLICATION NUMBER: 60/085697

Query Match 20.2%; Score 470; DB 14; Length 802;  
 Best Local Similarity 33.1%; Pred. No. 2.5e-31;  
 Matches 124; Conservative 52; Mismatches 145; Indels 54; Gaps 18;

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 Db 783 YFGVYTRITGVISWT 797

Search completed: June 14, 2004, 17:50:01  
 Job time : 61 secs





Db 361 GGPVASFHGTWFLVGLVSWGEGGGLHNYGVYTKVSRYLDMTHIGHIRDKKAPQKSWAP 419

## RESULT 2

US-08-955-471-1  
Sequence 1, Application US/08955471  
Patent No. 5968751  
GENERAL INFORMATION:  
APPLICANT: Griffin, John H.  
APPLICANT: Meesters, Rolf M.  
TITLE OF INVENTION: Serine Protease-Derived Polypeptides and  
TITLE OF INVENTION: Anti-Peptide Antibodies, Systems and Therapeutic Methods  
TITLE OF INVENTION: for Inhibiting Coagulation  
NUMBER OF SEQUENCES: 10  
CORRESPONDENCE ADDRESS:  
ADDRESS: Office of Patent Counsel, The Scripps  
ADDRESSEE: Research Institute  
STREET: 10666 No. 5968751th Torrey Pines Road, TPC 8  
CITY: La Jolla  
STATE: CA  
COUNTRY: USA  
ZIP: 92037  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/955,471  
FILING DATE:  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/295,411  
FILING DATE:  
CLASSIFICATION:  
ATTORNEY/AGENT INFORMATION:  
NAME: Fitting, Thomas  
REGISTRATION NUMBER: 34,163  
REFERENCE/DOCKET NUMBER: TSRI263.001  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 619-554-2937  
TELEFAX: 619-554-6312  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 419 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHEetical: NO  
ANTI-SENSE: NO  
FEATURE:  
NAME/KEY: Region  
LOCATION: 1..157  
OTHER INFORMATION: /note= "Protein C Light Chain"  
NAME/KEY: Region  
LOCATION: 158..169  
OTHER INFORMATION: /note= "Protein C Activation  
FEATURE:  
NAME/KEY: Region  
LOCATION: 170..419  
OTHER INFORMATION: /note= "Protein C Heavy Chain"  
US-08-955-471-1

Query Match 100.0%; Score 2324; DB 2; Length 419;  
Best Local Similarity 100.0%; Pred. No. 8.7e-191;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
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Db 361 GGPVASFHGTWFLVGLVSWGEGGGLHNYGVYTKVSRYLDMTHIGHIRDKKAPQKSWAP 419

## RESULT 3

US-09-667-570A-3  
Sequence 3, Application US/09667570A  
Patent No. 6436397  
GENERAL INFORMATION:  
APPLICANT: Baker, Jeffrey C  
APPLICANT: Carlson, Andrew D  
APPLICANT: Huang, Lihua  
APPLICANT: Shelliga, Theodore A  
TITLE OF INVENTION: Improved Methods for Processing Activated Protein C  
FILE REFERENCE: X-11796A  
CURRENT APPLICATION NUMBER: US/09/667,570A  
CURRENT FILING DATE: 2000-09-21  
PRIOR APPLICATION NUMBER: 60/045,255  
PRIOR FILING DATE: 1997-04-28  
NUMBER OF SEQ ID NOS: 3  
SOFTWARE: Patent version 3.1  
SEQ ID NO 3  
LENGTH: 419  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-09-667-570A-3

Query Match 100.0%; Score 2324; DB 4; Length 419;

Best Local Similarity 100.0%; Pred. No. 8.7e-191;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 241 KEVFNHNYSKSTTNDIALHLAOPATLSQTIYPICLPDSGLAEELNQAQOETLVGW 300

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DB 361 GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGVYTKVSRYLDMHGHTRDKEAPQKSWAP 419

## RESULT 4

US-10-182-263-1  
Sequence 1, Application US/10182263  
Patent No. 6630138  
GENERAL INFORMATION:  
APPLICANT: Gerlitz, Bruce E  
APPLICANT: Jones, Bryan E  
APPLICANT: Grinnell, Brian W  
TITLE OF INVENTION: PROTEIN C DERIVATIVES  
FILE REFERENCE: X-13611  
CURRENT APPLICATION NUMBER: US/10/182,263  
CURRENT FILING DATE: 2002-07-22  
PRIOR APPLICATION NUMBER: 60/181948  
PRIOR FILING DATE: 2002-02-11  
PRIOR APPLICATION NUMBER: 60/189199  
PRIOR FILING DATE: 2000-03-14  
NUMBER OF SEQ ID NOS: 12  
SOFTWARE: PatentIn version 3.1  
SEQ ID NO: 1  
LENGTH: 419  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-182-263-1

Query Match 100.0%; Score 2324; DB 4; Length 419;  
Best Local Similarity 100.0%; Pred. No. 8.7e-191;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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## RESULT 5

PCT-US92-10242-1  
Sequence 1, Application PC/TUS9210242  
GENERAL INFORMATION:  
APPLICANT: Griffin, John H.  
APPLICANT: Meesters, Rolf  
TITLE OF INVENTION: Serine Protease-Derived Polypeptides and

TITLE OF INVENTION: Anti-Peptide Antibodies, Systems and Therapeutic Methods  
TITLE OF INVENTION: for Inhibiting Coagulation  
NUMBER OF SEQUENCES: 10  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Office of Patent Counsel, The Scripps  
ADDRESSEE: Research Institute  
STREET: 10666 North Torrey Pines Road, TPC 8  
CITY: La Jolla  
STATE: CA  
COUNTRY: USA  
ZIP: 92037

## COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:  
APPLICATION NUMBER: PCT/US92/10242

FILING DATE: 19921118  
CLASSIFICATION:

PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/793,989

FILING DATE: 18-NOV-1991  
ATTORNEY/AGENT INFORMATION:

NAME: Fitting, Thomas

REGISTRATION NUMBER: 34,163  
REFERENCE/DOCKET INFORMATION: SCRO472P

TELEPHONE: 619-554-2937  
TELEFAX: 619-554-6312

INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:

LENGTH: 419 amino acids  
TYPE: AMINO ACID

TOPOLOGY: linear  
MOLECULE TYPE: protein

HYPOTHEICAL: NO  
ANTI-SENSE: NO

FEATURE:  
NAME/KEY: Region

LOCATION: 1..157  
OTHER INFORMATION: /note= "Protein C Light Chain"

FEATURE:  
NAME/KEY: Region

LOCATION: 158..169  
OTHER INFORMATION: /note= "Protein C Activation"

FEATURE:  
NAME/KEY: Region

LOCATION: 170..419  
OTHER INFORMATION: /note= "Protein C Heavy Chain"

PCT-US92-10242-1

Query Match 100.0%; Score 2324; DB 5; Length 419;  
Best Local Similarity 100.0%; Pred. No. 8.7e-191;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLELRHSSLRECEIEICDPEAKEIFQNVDDTLAFMSKYNVDGQCLVPLEHPCA 60  
DB 1 ANSFLELRHSSLRECEIEICDPEAKEIFQNVDDTLAFMSKYNVDGQCLVPLEHPCA 60  
QY 61 SLCCGHGTCIDIGISFSCDCRSGMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRCSG 120  
DB 61 SLCCGHGTCIDIGISFSCDCRSGMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRCSG 120  
QY 121 APGYKLGDDLLQCHPAVFPQGRPMKRMKRSLSKRDTEDEQDVDPRLIDGKTRRGD 180  
DB 121 APGYKLGDDLLQCHPAVFPQGRPMKRMKRSLSKRDTEDEQDVDPRLIDGKTRRGD 180  
QY 181 SPQVVLDSKKKACAGAVLIHPSWVLTAAHCDMSKKLVRLGEYDLRRMEXWELDDI 240  
DB 181 SPQVVLDSKKKACAGAVLIHPSWVLTAAHCDMSKKLVRLGEYDLRRMEXWELDDI 240

QY 241 KEVFNHNSKSTTNDIALHLAOPATLSQTIIVICLPDGLAEELNQAQOETLVYGM 300  
DB 241 KEVFNHNSKSTTNDIALHLAOPATLSQTIIVICLPDGLAEELNQAQOETLVYGM 300  
QY 301 GYHSSREKAKRNRTFVNFILKIPVPHNECEVSNMNSNNMLCAGILGRDQACGDS 360  
DB 301 GYHSSREKAKRNRTFVNFILKIPVPHNECEVSNMNSNNMLCAGILGRDQACGDS 360  
QY 361 GGPVNASFHGTWFLVGLVSWGEGGLLHNYGYTYSRYLDMHGHIRKKAPOKSNAP 419  
DB 361 GGPVNASFHGTWFLVGLVSWGEGGLLHNYGYTYSRYLDMHGHIRKKAPOKSNAP 419

## RESULT 6

US-10-182-263-2  
; Sequence 2, Application US/10182263  
; Patent No. 6630138  
; GENERAL INFORMATION:  
; APPLICANT: Gerlitz, Bruce E  
; APPLICANT: Jones, Bryan E  
; APPLICANT: Grinnell, Brian W  
; TITLE OF INVENTION: PROTEIN C DERIVATIVES  
; FILE REFERENCE: X-13611  
; CURRENT APPLICATION NUMBER: US/10/182,263  
; CURRENT FILING DATE: 2002-07-22  
; PRIOR APPLICATION NUMBER: 60/181948  
; PRIOR FILING DATE: 2002-02-11  
; PRIOR APPLICATION NUMBER: 60/189199  
; PRIOR FILING DATE: 2000-03-14  
; NUMBER OF SEQ ID NOS: 12  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 2  
; LENGTH: 461  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-182-263-2

Query Match 100.0%; Score 2324; DB 4; Length 461;  
Best Local Similarity 100.0%; Pred. No. 9,8e-191;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLELRHSSLERECIEICDFEAKETIFQNVDDTLAFMSKRVDDQCLVPLEHPCA 60  
DB 43 ANSFLELRHSSLERECIEICDFEAKETIFQNVDDTLAFMSKRVDDQCLVPLEHPCA 102  
QY 61 SLCCGHGTCIDIGISFCDCRSWGEGFPCOREVSPFNSLNDGCTHYCLEBYGMRRCSC 120  
DB 103 SLCCGHGTCIDIGISFCDCRSWGEGFPCOREVSPFNSLNDGCTHYCLEBYGMRRCSC 162  
QY 121 APGYLGDLDLQCHPAVYPCGRPMKMEKKSHLKRDTEDEQDQVDPRLIDGKMTREGD 180  
DB 163 APGYLGDLDLQCHPAVYPCGRPMKMEKKSHLKRDTEDEQDQVDPRLIDGKMTREGD 222  
QY 181 SPWQVYLLDSKKLACGAVLIHPSWVLTAAHCDSDSKLIVRLGEYDLRMRKWEILDLDI 240  
DB 223 SPWQVYLLDSKKLACGAVLIHPSWVLTAAHCDSDSKLIVRLGEYDLRMRKWEILDLDI 282  
QY 241 KEVFNHNSKSTTNDIALHLAOPATLSQTIIVICLPDGLAEELNQAQOETLVYGM 300  
DB 283 KEVFNHNSKSTTNDIALHLAOPATLSQTIIVICLPDGLAEELNQAQOETLVYGM 342  
QY 301 GYHSSREKAKRNRTFVNFILKIPVPHNECEVSNMNSNNMLCAGILGRDQACGDS 360  
DB 343 GYHSSREKAKRNRTFVNFILKIPVPHNECEVSNMNSNNMLCAGILGRDQACGDS 402  
QY 361 GGPVNASFHGTWFLVGLVSWGEGGLLHNYGYTYSRYLDMHGHIRKKAPOKSNAP 419  
DB 403 GGPVNASFHGTWFLVGLVSWGEGGLLHNYGYTYSRYLDMHGHIRKKAPOKSNAP 461

## RESULT 7

522537-2  
; Patent No. 522537

; APPLICANT: FOSTER, DONALD  
; TITLE OF INVENTION: METHODS FOR PRODUCING HYBRID  
; PHOSPHOLIPID-BINDING PROTEINS  
; NUMBER OF SEQUENCES: 14  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/459,082  
; FILING DATE: 29-DEC-1989  
; SEQ ID NO:2  
; LENGTH: 461  
522537-2

Query Match 100.0%; Score 2324; DB 6; Length 461;  
Best Local Similarity 100.0%; Pred. No. 9,8e-191;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLELRHSSLERECIEICDFEAKETIFQNVDDTLAFMSKRVDDQCLVPLEHPCA 60  
DB 43 ANSFLELRHSSLERECIEICDFEAKETIFQNVDDTLAFMSKRVDDQCLVPLEHPCA 102  
QY 61 SLCCGHGTCIDIGISFCDCRSWGEGFPCOREVSPFNSLNDGCTHYCLEBYGMRRCSC 120  
DB 103 SLCCGHGTCIDIGISFCDCRSWGEGFPCOREVSPFNSLNDGCTHYCLEBYGMRRCSC 162  
QY 121 APGYLGDLDLQCHPAVYPCGRPMKMEKKSHLKRDTEDEQDQVDPRLIDGKMTREGD 180  
DB 163 APGYLGDLDLQCHPAVYPCGRPMKMEKKSHLKRDTEDEQDQVDPRLIDGKMTREGD 222  
QY 181 SPWQVYLLDSKKLACGAVLIHPSWVLTAAHCDSDSKLIVRLGEYDLRMRKWEILDLDI 240  
DB 223 SPWQVYLLDSKKLACGAVLIHPSWVLTAAHCDSDSKLIVRLGEYDLRMRKWEILDLDI 282  
QY 241 KEVFNHNSKSTTNDIALHLAOPATLSQTIIVICLPDGLAEELNQAQOETLVYGM 300  
DB 283 KEVFNHNSKSTTNDIALHLAOPATLSQTIIVICLPDGLAEELNQAQOETLVYGM 342  
QY 301 GYHSSREKAKRNRTFVNFILKIPVPHNECEVSNMNSNNMLCAGILGRDQACGDS 360  
DB 343 GYHSSREKAKRNRTFVNFILKIPVPHNECEVSNMNSNNMLCAGILGRDQACGDS 402  
QY 361 GGPVNASFHGTWFLVGLVSWGEGGLLHNYGYTYSRYLDMHGHIRKKAPOKSNAP 419  
DB 403 GGPVNASFHGTWFLVGLVSWGEGGLLHNYGYTYSRYLDMHGHIRKKAPOKSNAP 461

## RESULT 8

5460953-3  
; Patent No. 5460953  
; APPLICANT: GERLITZ, BRUCE E, GRINNELL, BRIAN W.  
; TITLE OF INVENTION: VECTORS AND COMPOUNDS FOR EXPRESSION OF  
; GLYCOSYLATION MUTANTS OF HUMAN PROTEIN C  
; NUMBER OF SEQUENCES: 3  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/93,217  
; FILING DATE: 09-SEP-1993  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: 628,063  
; FILING DATE: 21-DEC-1990  
; APPLICATION NUMBER: 484,081  
; FILING DATE: 23-FEB-1990  
; SEQ ID NO:3  
; LENGTH: 461  
5460953-3

Query Match 99.7%; Score 2318; DB 6; Length 461;  
Best Local Similarity 99.8%; Pred. No. 3,2e-190;  
Matches 418; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSFLELRHSSLERECIEICDFEAKETIFQNVDDTLAFMSKRVDDQCLVPLEHPCA 60  
DB 43 ANSFLELRHSSLERECIEICDFEAKETIFQNVDDTLAFMSKRVDDQCLVPLEHPCA 102  
QY 61 SLCCGHGTCIDIGISFCDCRSWGEGFPCOREVSPFNSLNDGCTHYCLEBYGMRRCSC 120

Db 103 SLCCGHTCIDIGSFSCDCRSGBRFGQREVSFLNCSLDNGCTHYCLEVGMRCSC 162  
QY 121 AFGYKGDLLQCHPAKFCGRPMKMEKRSLSLKDTEDEDDVDPRLIDGKMTRRGD 180  
Db 163 AFGYKGDLLQCHPAKFCGRPMKMEKRSLSLKDTEDEDDVDPRLIDGKMTRRGD 222  
QY 181 SPQOVVLDSKKKLACGAVLIHPSWVLPAAHOMESKLLVRLGEYDLRRMEKMLDLDI 240  
Db 223 SPQOVVLDSKKKLACGAVLIHPSWVLPAAHOMESKLLVRLGEYDLRRMEKMLDLDI 282  
QY 241 KEVFEHPNYSKSTTDNDIALHLAOPATLSQTIPICLPDSGLARELNQAGQETLVTCW 300  
Db 283 KEVFEHPNYSKSTTDNDIALHLAOPATLSQTIPICLPDSGLARELNQAGQETLVTCW 342  
QY 301 GHSSREKAKNRRTFVLANFTIKIPVPHNECSFVMSNMVSENNLCAGILGRDADCEGDS 360  
Db 343 GHSSREKAKNRRTFVLANFTIKIPVPHNECSFVMSNMVSENNLCAGILGRDADCEGDS 402  
QY 361 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGYTKVSRYLDMWIGHIRDXEAPQKSWA 419  
Db 403 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGYTKVSRYLDMWIGHIRDXEAPQKSWA 461

## RESULT 9

US-08-756-506-2  
Sequence 2, Application US/08756506  
Patent No. 5905185

## GENERAL INFORMATION:

APPLICANT: Garner, Ian  
APPLICANT: Cottingham, Ian R.  
APPLICANT: Temperley, Simon M.  
APPLICANT: Foster, Donald C.  
APPLICANT: Sprecher, Cindy A.  
APPLICANT: Prunkard, Donna E.  
TITLE OF INVENTION: PROTEIN C PRODUCTION IN TRANSGENIC  
NUMBER OF SEQUENCES: 25  
CORRESPONDENCE ADDRESSES:  
ADDRESSEE: Zymogenetics, Inc.  
STREET: 1201 Eastlake Avenue East  
CITY: Seattle  
STATE: WA  
COUNTRY: USA  
ZIP: 98102  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/756,506  
FILING DATE:  
CLASSIFICATION: 800  
ATTORNEY/AGENT INFORMATION:  
NAME: Sawislak, Deborah A.  
REGISTRATION NUMBER: 37,438  
REFERENCE/DOCKET NUMBER: 95-28  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 206-442-6672  
TELEFAX: 206-442-6678  
INFORMATION FOR SEQ ID NO: 2:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 460 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-756-506-2

## Query Match

99.7%; Score 2317; DB 2; Length 460;  
Best Local Similarity 100.0%; Pred. No. 3.9e-190;  
Matches 418; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSTFELHSHSLRECEIEICDFEAKETIQNDVDTLAWSHVDSGQCLVPLRHPQA 60

Db 43 ANSTFELHSHSLRECEIEICDFEAKETIQNDVDTLAWSHVDSGQCLVPLRHPQA 102  
QY 61 SLCCGHTCIDIGSFSCDCRSGBRFGQREVSFLNCSLDNGCTHYCLEVGMRCSC 120  
Db 103 SLCCGHTCIDIGSFSCDCRSGBRFGQREVSFLNCSLDNGCTHYCLEVGMRCSC 162  
QY 121 AFGYKGDLLQCHPAKFCGRPMKMEKRSLSLKDTEDEDDVDPRLIDGKMTRRGD 180  
Db 163 AFGYKGDLLQCHPAKFCGRPMKMEKRSLSLKDTEDEDDVDPRLIDGKMTRRGD 222  
QY 181 SPQOVVLDSKKKLACGAVLIHPSWVLPAAHOMESKLLVRLGEYDLRRMEKMLDLDI 240  
Db 223 SPQOVVLDSKKKLACGAVLIHPSWVLPAAHOMESKLLVRLGEYDLRRMEKMLDLDI 282  
QY 241 KEVFEHPNYSKSTTDNDIALHLAOPATLSQTIPICLPDSGLARELNQAGQETLVTCW 300  
Db 283 KEVFEHPNYSKSTTDNDIALHLAOPATLSQTIPICLPDSGLARELNQAGQETLVTCW 342  
QY 301 GHSSREKAKNRRTFVLANFTIKIPVPHNECSFVMSNMVSENNLCAGILGRDADCEGDS 360  
Db 343 GHSSREKAKNRRTFVLANFTIKIPVPHNECSFVMSNMVSENNLCAGILGRDADCEGDS 402  
QY 361 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGYTKVSRYLDMWIGHIRDXEAPQKSWA 418  
Db 403 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGYTKVSRYLDMWIGHIRDXEAPQKSWA 460

## RESULT 10

US-08-756-506-4  
Sequence 4, Application US/08756506  
Patent No. 5905185

## GENERAL INFORMATION:

APPLICANT: Garner, Ian  
APPLICANT: Cottingham, Ian R.  
APPLICANT: Temperley, Simon M.  
APPLICANT: Foster, Donald C.  
APPLICANT: Sprecher, Cindy A.  
APPLICANT: Prunkard, Donna E.  
TITLE OF INVENTION: PROTEIN C PRODUCTION IN TRANSGENIC  
NUMBER OF SEQUENCES: 25  
CORRESPONDENCE ADDRESSES:  
ADDRESSEE: Zymogenetics, Inc.  
STREET: 1201 Eastlake Avenue East  
CITY: Seattle  
STATE: WA  
COUNTRY: USA  
ZIP: 98102  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/756,506  
FILING DATE:  
CLASSIFICATION: 800  
ATTORNEY/AGENT INFORMATION:  
NAME: Sawislak, Deborah A.  
REGISTRATION NUMBER: 37,438  
REFERENCE/DOCKET NUMBER: 95-28  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 206-442-6672  
TELEFAX: 206-442-6678  
INFORMATION FOR SEQ ID NO: 4:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 460 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-756-506-4

Query Match 99.7%; Score 2317; DB 2; Length 460;  
 Best Local Similarity 100.0%; Pred. No. 3.9e-190;  
 Matches 418; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLERHSSLERECIEICDPEBAKEIFQVNDTLAFMSKRVGDQCVLPLEHPCA 60  
 DB 43 ANSFLERHSSLERECIEICDPEBAKEIFQVNDTLAFMSKRVGDQCVLPLEHPCA 102  
 QY 61 SLCCGHTCIDIGSFCDCSGMEGRFCQREVSFLNCSLDNGGCTHYCLEBYWRRCSG 120  
 DB 103 SLCCGHTCIDIGSFCDCSGMEGRFCQREVSFLNCSLDNGGCTHYCLEBYWRRCSG 162  
 QY 121 APGYKGGDDLQCHPAVAFPCGRPMKMEKKSRLKRTDEQDQVDPRLIDGMKTRRGD 180  
 DB 163 APGYKGGDDLQCHPAVAFPCGRPMKMEKKSRLKRTDEQDQVDPRLIDGMKTRRGD 222  
 QY 181 SPQVVLDSKKKLACGAVLIHPSWVLTAAHCWDSKKLVRLGEYDLRMEKWEILDLDI 240  
 DB 223 SPQVVLDSKKKLACGAVLIHPSWVLTAAHCWDSKKLVRLGEYDLRMEKWEILDLDI 282  
 QY 241 KEVFAHPYNSKSTTNDIALHLAQPATLSQITVPICLPDSGLAERLNOAGETLVYTWG 300  
 DB 283 KEVFAHPYNSKSTTNDIALHLAQPATLSQITVPICLPDSGLAERLNOAGETLVYTWG 342  
 QY 301 GHSSREKAKRRRTFVNFYIKIPVPHNECEVSNVSNVSENNLCAGILGRDQACBGDS 360  
 DB 343 GHSSREKAKRRRTFVNFYIKIPVPHNECEVSNVSNVSENNLCAGILGRDQACBGDS 402  
 QY 361 GGPVVASFHGTWFLVGLVSWGEGGGLAHNYGYTVKSYRLDMHGHTRDEKAPQKSNAP 418  
 DB 403 GGPVVASFHGTWFLVGLVSWGEGGGLAHNYGYTVKSYRLDMHGHTRDEKAPQKSNAP 460

RESULT 11  
 US-10-182-263-5  
 ; Sequence 5, Application US/10182263  
 ; Patent No. 6630138  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Gerlitz, Bruce E  
 ; APPLICANT: Jones, Bryan E  
 ; APPLICANT: Grinnell, Brian W  
 ; TITLE OF INVENTION: PROTEIN C DERIVATIVES  
 ; FILE REFERENCE: X-13611  
 ; CURRENT APPLICATION NUMBER: US/10/182,263  
 ; PRIOR FILING DATE: 2002-07-22  
 ; PRIOR APPLICATION NUMBER: 60/181,948  
 ; PRIOR FILING DATE: 2002-02-11  
 ; PRIOR APPLICATION NUMBER: 60/189,199  
 ; NUMBER OF SEQ ID NOS: 12  
 ; SOFTWARE: PatentIn version 3.1  
 ; SEQ ID NO 5  
 ; LENGTH: 419  
 ; TYPE: PRT  
 ; ORGANISM: Homo sapiens  
 US-10-182-263-5

Query Match 98.8%; Score 2296; DB 4; Length 419;  
 Best Local Similarity 98.8%; Pred. No. 2.2e-188;  
 Matches 414; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 1 ANSFLERHSSLERECIEICDPEBAKEIFQVNDTLAFMSKRVGDQCVLPLEHPCA 60  
 DB 1 ANSFLERHSSLERECIEICDPEBAKEIFQVNDTLAFMSKRVGDQCVLPLEHPCA 60  
 QY 61 SLCCGHTCIDIGSFCDCSGMEGRFCQREVSFLNCSLDNGGCTHYCLEBYWRRCSG 120  
 DB 61 SLCCGHTCIDIGSFCDCSGMEGRFCQREVSFLNCSLDNGGCTHYCLEBYWRRCSG 120  
 QY 121 APGYKGGDDLQCHPAVAFPCGRPMKMEKKSRLKRTDEQDQVDPRLIDGMKTRRGD 180  
 DB 121 APGYKGGDDLQCHPAVAFPCGRPMKMEKKSRLKRTDEQDQVDPRLIDGMKTRRGD 180

QY 181 SPQVVLDSKKKLACGAVLIHPSWVLTAAHCWDSKKLVRLGEYDLRMEKWEILDLDI 240  
 DB 181 SPQVVLDSKKKLACGAVLIHPSWVLTAAHCWDSKKLVRLGEYDLRMEKWEILDLDI 240  
 QY 241 KEVFAHPYNSKSTTNDIALHLAQPATLSQITVPICLPDSGLAERLNOAGETLVYTWG 300  
 DB 241 KEVFAHPYNSKSTTNDIALHLAQPATLSQITVPICLPDSGLAERLNOAGETLVYTWG 300  
 QY 301 GHSSREKAKRRRTFVNFYIKIPVPHNECEVSNVSNVSENNLCAGILGRDQACBGDS 360  
 DB 301 GHSSREKAKRRRTFVNFYIKIPVPHNECEVSNVSNVSENNLCAGILGRDQACBGDS 360  
 QY 361 GGPVVASFHGTWFLVGLVSWGEGGGLAHNYGYTVKSYRLDMHGHTRDEKAPQKSNAP 419  
 DB 361 GGPVVASFHGTWFLVGLVSWGEGGGLAHNYGYTVKSYRLDMHGHTRDEKAPQKSNAP 419

RESULT 12  
 5270178-17  
 ; Patent No. 5270178  
 ; APPLICANT: GERLITZ, BRUCE E.; GRINNELL, BRIAN W.  
 ; TITLE OF INVENTION: VECTORS AND COMPOUNDS FOR EXPRESSION OF  
 ; ZYMOGEN FORMS OF HUMAN PROTEIN C  
 ; NUMBER OF SEQUENCES: 21  
 ; CURRENT APPLICATION DATA:  
 ; APPLICATION NUMBER: US/07/484,133  
 ; FILING DATE: 23-FEB-1990  
 ; SEQ ID NO:17;  
 ; LENGTH: 461  
 5270178-17

Query Match 98.6%; Score 2292; DB 6; Length 461;  
 Best Local Similarity 98.6%; Pred. No. 5.3e-188;  
 Matches 413; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

QY 1 ANSFLERHSSLERECIEICDPEBAKEIFQVNDTLAFMSKRVGDQCVLPLEHPCA 60  
 DB 43 ANSFLERHSSLERECIEICDPEBAKEIFQVNDTLAFMSKRVGDQCVLPLEHPCA 102  
 QY 61 SLCCGHTCIDIGSFCDCSGMEGRFCQREVSFLNCSLDNGGCTHYCLEBYWRRCSG 120  
 DB 103 SLCCGHTCIDIGSFCDCSGMEGRFCQREVSFLNCSLDNGGCTHYCLEBYWRRCSG 162  
 QY 121 APGYKGGDDLQCHPAVAFPCGRPMKMEKKSRLKRTDEQDQVDPRLIDGMKTRRGD 180  
 DB 163 APGYKGGDDLQCHPAVAFPCGRPMKMEKKSRLKRTDEQDQVDPRLIDGMKTRRGD 222  
 QY 181 SPQVVLDSKKKLACGAVLIHPSWVLTAAHCWDSKKLVRLGEYDLRMEKWEILDLDI 240  
 DB 223 SPQVVLDSKKKLACGAVLIHPSWVLTAAHCWDSKKLVRLGEYDLRMEKWEILDLDI 282  
 QY 241 KEVFAHPYNSKSTTNDIALHLAQPATLSQITVPICLPDSGLAERLNOAGETLVYTWG 300  
 DB 283 KEVFAHPYNSKSTTNDIALHLAQPATLSQITVPICLPDSGLAERLNOAGETLVYTWG 342  
 QY 301 GHSSREKAKRRRTFVNFYIKIPVPHNECEVSNVSNVSENNLCAGILGRDQACBGDS 360  
 DB 343 GHSSREKAKRRRTFVNFYIKIPVPHNECEVSNVSNVSENNLCAGILGRDQACBGDS 402  
 QY 361 GGPVVASFHGTWFLVGLVSWGEGGGLAHNYGYTVKSYRLDMHGHTRDEKAPQKSNAP 419  
 DB 403 GGPVVASFHGTWFLVGLVSWGEGGGLAHNYGYTVKSYRLDMHGHTRDEKAPQKSNAP 461

RESULT 13  
 5270178-18  
 ; Patent No. 5270178  
 ; APPLICANT: GERLITZ, BRUCE E.; GRINNELL, BRIAN W.  
 ; TITLE OF INVENTION: VECTORS AND COMPOUNDS FOR EXPRESSION OF  
 ; ZYMOGEN FORMS OF HUMAN PROTEIN C  
 ; NUMBER OF SEQUENCES: 21  
 ; CURRENT APPLICATION DATA:  
 ; APPLICATION NUMBER: US/07/484,133



FILING DATE: 23-FEB-1990  
SEQ ID NO:18:  
LENGTH: 461  
5270178-18

Query Match 98.6%; Score 2292; DB 6; Length 461;  
Best Local Similarity 98.6%; Pred. No. 5.3e-188;  
Matches 413; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

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QY 1 ANSFLELRHSLRECEIEICDFEAKEIFQNVDDTLAFMSKYVDGQCIVLPLEHPCA 60
DB 43 ANSFLELRHSLRECEIEICDFEAKEIFQNVDDTLAFMSKYVDGQCIVLPLEHPCA 102
QY 61 SLCCGHTCIDIGISFSCDRCRSGMGRFCQREVSFLNCSLDNGGCTHYCLBEVGMRCSC 120
DB 103 SLCCGHTCIDIGISFSCDRCRSGMGRFCQREVSFLNCSLDNGGCTHYCLBEVGMRCSC 162
QY 121 APGYKLGDDLQCHPAVKFPCGRPMKMEKKRSHLRDTEDEQVDFPRLIDGKMTRRGD 180
DB 163 APGYKLGDDLQCHPAVKFPCGRPMKMEKKRSHLRDTEDEQVDFPRLIDGKMTRRGD 222
QY 181 SPQVVLDSKKKLACGAVLIHPSWVLTAAHCDDESKLLVRLGEYDLRRMEKWEILDIT 240
DB 223 SPQVVLDSKKKLACGAVLIHPSWVLTAAHCDDESKLLVRLGEYDLRRMEKWEILDIT 282
QY 241 KEVFAHPNYSKSTTNDIALHLAOPATLSQTIYVICLPDPSGLARELNQAGQETLYTGM 300
DB 283 KEVFAHPNYSKSTTNDIALHLAOPATLSQTIYVICLPDPSGLARELNQAGQETLYTGM 342
QY 301 GHSSREKAKRNTFVLFNFIKIPVPHNECSEVMNSVSENNLCAGILGRDQACGSDS 360
DB 343 GHSSREKAKRNTFVLFNFIKIPVPHNECSEVMNSVSENNLCAGILGRDQACGSDS 402
QY 361 GGMVASFHGTWFLVGLVSWGBCGLLHNVGYTKVSRYLDMTHIGHIRDXEAPQKSMAP 419
DB 403 GGMVASFHGTWFLVGLVSWGBCGLLHNVGYTKVSRYLDMTHIGHIRDXEAPQKSMAP 461
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## RESULT 14

US-10-182-263-3  
Sequence 3, Application US/10182263  
Patent No. 6630138  
GENERAL INFORMATION:  
APPLICANT: Gerlitz, Bruce E  
APPLICANT: Jones, Bryan E  
APPLICANT: Grinnell, Brian W  
TITLE OF INVENTION: PROTEIN C DERIVATIVES  
FILE REFERENCE: X-13611  
CURRENT FILING DATE: 2002-07-22  
PRIOR APPLICATION NUMBER: US/10/182,263  
PRIOR FILING DATE: 2002-02-11  
PRIOR APPLICATION NUMBER: 60/181948  
PRIOR FILING DATE: 2000-03-14  
NUMBER OF SEQ ID NOS: 12  
SOFTWARE: PatentIn version 3.1  
SEQ ID NO 3  
TYPE: PRT  
LENGTH: 419  
ORGANISM: Homo sapiens  
US-10-182-263-3

Query Match 98.5%; Score 2290; DB 4; Length 419;  
Best Local Similarity 98.6%; Pred. No. 7e-188;  
Matches 413; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

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QY 1 ANSFLELRHSLRECEIEICDFEAKEIFQNVDDTLAFMSKYVDGQCIVLPLEHPCA 60
DB 1 ANSFLELRHSLRECEIEICDFEAKEIFQNVDDTLAFMSKYVDGQCIVLPLEHPCA 60
QY 61 SLCCGHTCIDIGISFSCDRCRSGMGRFCQREVSFLNCSLDNGGCTHYCLBEVGMRCSC 120
DB 61 SLCCGHTCIDIGISFSCDRCRSGMGRFCQREVSFLNCSLDNGGCTHYCLBEVGMRCSC 120
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QY 121 APGYKLGDDLQCHPAVKFPCGRPMKMEKKRSHLRDTEDEQVDFPRLIDGKMTRRGD 180
DB 121 APGYKLGDDLQCHPAVKFPCGRPMKMEKKRSHLRDTEDEQVDFPRLIDGKMTRRGD 180
QY 181 SPQVVLDSKKKLACGAVLIHPSWVLTAAHCDDESKLLVRLGEYDLRRMEKWEILDIT 240
DB 181 SPQVVLDSKKKLACGAVLIHPSWVLTAAHCDDESKLLVRLGEYDLRRMEKWEILDIT 240
QY 241 KEVFAHPNYSKSTTNDIALHLAOPATLSQTIYVICLPDPSGLARELNQAGQETLYTGM 300
DB 241 KEVFAHPNYSKSTTNDIALHLAOPATLSQTIYVICLPDPSGLARELNQAGQETLYTGM 300
QY 301 GHSSREKAKRNTFVLFNFIKIPVPHNECSEVMNSVSENNLCAGILGRDQACGSDS 360
DB 301 GHSSREKAKRNTFVLFNFIKIPVPHNECSEVMNSVSENNLCAGILGRDQACGSDS 360
QY 361 GGMVASFHGTWFLVGLVSWGBCGLLHNVGYTKVSRYLDMTHIGHIRDXEAPQKSMAP 419
DB 361 GGMVASFHGTWFLVGLVSWGBCGLLHNVGYTKVSRYLDMTHIGHIRDXEAPQKSMAP 419
```

## RESULT 15

US-10-182-263-6  
Sequence 6, Application US/10182263  
Patent No. 6630138  
GENERAL INFORMATION:  
APPLICANT: Gerlitz, Bruce E  
APPLICANT: Jones, Bryan E  
APPLICANT: Grinnell, Brian W  
TITLE OF INVENTION: PROTEIN C DERIVATIVES  
FILE REFERENCE: X-13611  
CURRENT APPLICATION NUMBER: US/10/182,263  
CURRENT FILING DATE: 2002-07-22  
PRIOR APPLICATION NUMBER: 60/181948  
PRIOR FILING DATE: 2002-02-11  
PRIOR APPLICATION NUMBER: 60/189199  
PRIOR FILING DATE: 2000-03-14  
NUMBER OF SEQ ID NOS: 12  
SOFTWARE: PatentIn version 3.1  
SEQ ID NO 6  
TYPE: PRT  
LENGTH: 419  
ORGANISM: Homo sapiens  
US-10-182-263-6

Query Match 98.5%; Score 2288; DB 4; Length 419;  
Best Local Similarity 98.6%; Pred. No. 1e-187;  
Matches 413; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

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QY 1 ANSFLELRHSLRECEIEICDFEAKEIFQNVDDTLAFMSKYVDGQCIVLPLEHPCA 60
DB 1 ANSFLELRHSLRECEIEICDFEAKEIFQNVDDTLAFMSKYVDGQCIVLPLEHPCA 60
QY 61 SLCCGHTCIDIGISFSCDRCRSGMGRFCQREVSFLNCSLDNGGCTHYCLBEVGMRCSC 120
DB 61 SLCCGHTCIDIGISFSCDRCRSGMGRFCQREVSFLNCSLDNGGCTHYCLBEVGMRCSC 120
QY 121 APGYKLGDDLQCHPAVKFPCGRPMKMEKKRSHLRDTEDEQVDFPRLIDGKMTRRGD 180
DB 121 APGYKLGDDLQCHPAVKFPCGRPMKMEKKRSHLRDTEDEQVDFPRLIDGKMTRRGD 180
QY 181 SPQVVLDSKKKLACGAVLIHPSWVLTAAHCDDESKLLVRLGEYDLRRMEKWEILDIT 240
DB 181 SPQVVLDSKKKLACGAVLIHPSWVLTAAHCDDESKLLVRLGEYDLRRMEKWEILDIT 240
QY 241 KEVFAHPNYSKSTTNDIALHLAOPATLSQTIYVICLPDPSGLARELNQAGQETLYTGM 300
DB 241 KEVFAHPNYSKSTTNDIALHLAOPATLSQTIYVICLPDPSGLARELNQAGQETLYTGM 300
QY 301 GHSSREKAKRNTFVLFNFIKIPVPHNECSEVMNSVSENNLCAGILGRDQACGSDS 360
DB 301 GHSSREKAKRNTFVLFNFIKIPVPHNECSEVMNSVSENNLCAGILGRDQACGSDS 360
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QY 361 GGPWVASFHGTWFLVGLVSWGEGGGLLHNVGYTYSRYLDMTHGHIRDKAPQKSWAP 419  
Db 361 GGPWVASFHGTWFLVGLVSWGEGGGLLHNVGYTYSRYLDMTHGHIRDKAPQKSWAP 419

RESULT 16  
5270178-13  
; Patent No. 5270178  
; APPLICANT: GERLITZ, BRUCE E.; GRINNELL, BRIAN W.  
; TITLE OF INVENTION: VECTORS AND COMPOUNDS FOR EXPRESSION OF  
; ZYMOMEN FORMS OF HUMAN PROTEIN C  
; NUMBER OF SEQUENCES: 21  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US-07/484,133  
; FILING DATE: 23-FEB-1990  
; SEQ ID NO:13:  
; LENGTH: 460  
5270178-13

Query Match 98.4%; Score 2286.5; DB 6; Length 460;  
Best Local Similarity 98.6%; Pred. No. 1.6e-187;  
Matches 413; Conservative 3; Mismatches 2; Indels 1; Gaps 1;

QY 1 ANSFLELRHSSLERECIEEICDFEBAKEIFQVNDDTLAFMSKHVGDQCLVPLERPCA 60  
Db 43 ANSFLELRHSSLERECIEEICDFEBAKEIFQVNDDTLAFMSKHVGDQCLVPLERPCA 102  
QY 61 SLCCGHGTCIDIGSFSCDCRSWGEGRFQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 120  
Db 103 SLCCGHGTCIDIGSFSCDCRSWGEGRFQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 162  
QY 121 APGYKGDLLQCHPAVAFPCGRPMKMEKRSKSLKRDTEDEQDQVDPRLTGKMTTRGD 180  
Db 163 APGYKGDLLQCHPAVAFPCGRPMKMEKRSKSLKRDTEDEQDQVDPRLTGKMTTRGD 221  
QY 181 SPWQVLLDSKKKLACGAVLIHPSWVLTAAHCDSESKLLVRLGEYDLRRMEKWELEDLDI 240  
Db 222 SPWQVLLDSKKKLACGAVLIHPSWVLTAAHCDSESKLLVRLGEYDLRRMEKWELEDLDI 281  
QY 241 KEVFNHNYKSTTNDIALHLAOPATLSQTIIVICLPDSGLAERELINQAQETLVYGM 300  
Db 282 KEVFNHNYKSTTNDIALHLAOPATLSQTIIVICLPDSGLAERELINQAQETLVYGM 341  
QY 301 GYHSREKREKRNRTFVNFILKIPVPHNECEVSNVSNMNLCAGLIGRQDACEGDS 360  
Db 342 GYHSREKREKRNRTFVNFILKIPVPHNECEVSNVSNMNLCAGLIGRQDACEGDS 401  
QY 361 GGPWVASFHGTWFLVGLVSWGEGGGLLHNVGYTYSRYLDMTHGHIRDKAPQKSWAP 419  
Db 402 GGPWVASFHGTWFLVGLVSWGEGGGLLHNVGYTYSRYLDMTHGHIRDKAPQKSWAP 460

RESULT 17  
5270178-14  
; Patent No. 5270178  
; APPLICANT: GERLITZ, BRUCE E.; GRINNELL, BRIAN W.  
; TITLE OF INVENTION: VECTORS AND COMPOUNDS FOR EXPRESSION OF  
; ZYMOMEN FORMS OF HUMAN PROTEIN C  
; NUMBER OF SEQUENCES: 21  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US-07/484,133  
; FILING DATE: 23-FEB-1990  
; SEQ ID NO:14:  
; LENGTH: 460  
5270178-14

Query Match 98.4%; Score 2286.5; DB 6; Length 460;  
Best Local Similarity 98.6%; Pred. No. 1.6e-187;  
Matches 413; Conservative 3; Mismatches 2; Indels 1; Gaps 1;

QY 1 ANSFLELRHSSLERECIEEICDFEBAKEIFQVNDDTLAFMSKHVGDQCLVPLERPCA 60

Db 43 ANSFLELRHSSLERECIEEICDFEBAKEIFQVNDDTLAFMSKHVGDQCLVPLERPCA 102  
QY 61 SLCCGHGTCIDIGSFSCDCRSWGEGRFQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 120  
Db 103 SLCCGHGTCIDIGSFSCDCRSWGEGRFQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 162  
QY 121 APGYKGDLLQCHPAVAFPCGRPMKMEKRSKSLKRDTEDEQDQVDPRLTGKMTTRGD 180  
Db 163 APGYKGDLLQCHPAVAFPCGRPMKMEKRSKSLKRDTEDEQDQVDPRLTGKMTTRGD 221  
QY 181 SPWQVLLDSKKKLACGAVLIHPSWVLTAAHCDSESKLLVRLGEYDLRRMEKWELEDLDI 240  
Db 222 SPWQVLLDSKKKLACGAVLIHPSWVLTAAHCDSESKLLVRLGEYDLRRMEKWELEDLDI 281  
QY 241 KEVFNHNYKSTTNDIALHLAOPATLSQTIIVICLPDSGLAERELINQAQETLVYGM 300  
Db 282 KEVFNHNYKSTTNDIALHLAOPATLSQTIIVICLPDSGLAERELINQAQETLVYGM 341  
QY 301 GYHSREKREKRNRTFVNFILKIPVPHNECEVSNVSNMNLCAGLIGRQDACEGDS 360  
Db 342 GYHSREKREKRNRTFVNFILKIPVPHNECEVSNVSNMNLCAGLIGRQDACEGDS 401  
QY 361 GGPWVASFHGTWFLVGLVSWGEGGGLLHNVGYTYSRYLDMTHGHIRDKAPQKSWAP 419  
Db 402 GGPWVASFHGTWFLVGLVSWGEGGGLLHNVGYTYSRYLDMTHGHIRDKAPQKSWAP 460

RESULT 18  
US-10-182-263-4  
; Sequence 4; Application US/10182263  
; Patent No. 6630138  
; GENERAL INFORMATION:  
; APPLICANT: Gerlitz, Bruce E  
; APPLICANT: Jones, Bryan E  
; APPLICANT: Grinnell, Brian W  
; TITLE OF INVENTION: PROTEIN C DERIVATIVES  
; FILE REFERENCE: X-13611  
; CURRENT APPLICATION NUMBER: US/10/182,263  
; PRIOR FILING DATE: 2002-07-22  
; PRIOR APPLICATION NUMBER: 60/181948  
; PRIOR FILING DATE: 2002-02-11  
; PRIOR APPLICATION NUMBER: 60/189199  
; PRIOR FILING DATE: 2000-03-14  
; NUMBER OF SEQ ID NOS: 12  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 4  
; LENGTH: 419  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-182-263-4

Query Match 98.4%; Score 2286; DB 4; Length 419;  
Best Local Similarity 98.3%; Pred. No. 1.5e-187;  
Matches 412; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

QY 1 ANSFLELRHSSLERECIEEICDFEBAKEIFQVNDDTLAFMSKHVGDQCLVPLERPCA 60  
Db 1 ANSFLELRHSSLERECIEEICDFEBAKEIFQVNDDTLAFMSKHVGDQCLVPLERPCA 60  
QY 61 SLCCGHGTCIDIGSFSCDCRSWGEGRFQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 120  
Db 61 SLCCGHGTCIDIGSFSCDCRSWGEGRFQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 120  
QY 121 APGYKGDLLQCHPAVAFPCGRPMKMEKRSKSLKRDTEDEQDQVDPRLTGKMTTRGD 180  
Db 121 APGYKGDLLQCHPAVAFPCGRPMKMEKRSKSLKRDTEDEQDQVDPRLTGKMTTRGD 180  
QY 181 SPWQVLLDSKKKLACGAVLIHPSWVLTAAHCDSESKLLVRLGEYDLRRMEKWELEDLDI 240  
Db 181 SPWQVLLDSKKKLACGAVLIHPSWVLTAAHCDSESKLLVRLGEYDLRRMEKWELEDLDI 240  
QY 241 KEVFNHNYKSTTNDIALHLAOPATLSQTIIVICLPDSGLAERELINQAQETLVYGM 300

Db 241 KEVFNHYSKSTNDIALHLAQPATLSQTIIVPICDPSGLAERELNOAGETVLTGW 300  
QY 301 GHSSREKEARNRTVNFIKIIVYVHNCESEVSNVSENNLCAGILGRQDACEGDS 360  
Db 301 GHSSREKEARNRTVNFIKIIVYVHNCESEVSNVSENNLCAGILGRQDACEGDS 360  
QY 361 GGPWASPHGTWFLVGLVSMGCGGLHNYGVYTKVSRYLDMHGHIRDEKAPQKSNAP 419  
Db 361 GGPWASPHGTWFLVGLVSMGCGGLHNYGVYTKVSRYLDMHGHIRDEKAPQKSNAP 419

## RESULT 19

US-09-065-872-1  
; Sequence 1, Application US/09065872  
; Patent No. 616629  
; GENERAL INFORMATION:  
; APPLICANT: Baker, Jeffrey C  
; APPLICANT: Carlson, Andrew D  
; APPLICANT: Huang, Libua  
; APPLICANT: Shelliga, Theodore A  
; TITLE OF INVENTION: Improved Methods for Processing Activated Protein C  
; FILE REFERENCE: APC process patent  
; CURRENT APPLICATION NUMBER: US/09/065,872  
; EARLIER FILING DATE: 1998-04-24  
; EARLIER APPLICATION NUMBER: 60/045,255  
; PRIOR FILING DATE: 1997-04-28  
; NUMBER OF SEQ ID NOS: 2  
; SOFTWARE: PatentIn Ver. 2.0  
; SEQ ID NO 1  
; LENGTH: 410  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-09-065-872-1

Query Match 98.1%; Score 2281, DB 3; Length 410;  
Best Local Similarity 100.0%; Pred. No. 4e-187;  
Matches 410; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 10 HSSLRECEIEICDPEEAKETFONVDDTLAFWSKRVDSQCLVPLEHPCASLCCGHGTC 69  
Db 1 HSSLRECEIEICDPEEAKETFONVDDTLAFWSKRVDSQCLVPLEHPCASLCCGHGTC 60  
QY 70 IDIGSFSCDCRSWGEGRFQREVSFLNCSLDNGGCTHYCLEVGMRRCSGAPGYKLGDD 129  
Db 61 IDIGSFSCDCRSWGEGRFQREVSFLNCSLDNGGCTHYCLEVGMRRCSGAPGYKLGDD 120  
QY 130 LLOCHPAVFPQGRPMKMEKRSKSHLKRTEDQEDQVDVDPRLIDGMTRGDSPMQVVLID 189  
Db 121 LLOCHPAVFPQGRPMKMEKRSKSHLKRTEDQEDQVDVDPRLIDGMTRGDSPMQVVLID 180  
QY 190 SKKLAAGAVLHPBWVLTAAHOMDESCKLVRGGEYDLRBEKWEELDLIDKEVFVHPNY 249  
Db 181 SKKLAAGAVLHPBWVLTAAHOMDESCKLVRGGEYDLRBEKWEELDLIDKEVFVHPNY 240  
QY 250 SKSTNDIALHLAQPATLSQTIIVPICDPSGLAERELNOAGETVLTGWGHSREKE 309  
Db 241 SKSTNDIALHLAQPATLSQTIIVPICDPSGLAERELNOAGETVLTGWGHSREKE 300  
QY 310 AKRRRTFVNFIKIIVYVHNCESEVSNVSENNLCAGILGRQDACEGDSGPMVASFH 369  
Db 301 AKRRRTFVNFIKIIVYVHNCESEVSNVSENNLCAGILGRQDACEGDSGPMVASFH 360  
QY 370 GTWFLVGLVSMGCGGLHNYGVYTKVSRYLDMHGHIRDEKAPQKSNAP 419  
Db 361 GTWFLVGLVSMGCGGLHNYGVYTKVSRYLDMHGHIRDEKAPQKSNAP 410

## RESULT 20

US-09-667-570A-1  
; Sequence 1, Application US/09667570A  
; Patent No. 6436397  
; GENERAL INFORMATION:  
; APPLICANT: Baker, Jeffrey C

; APPLICANT: Carlson, Andrew D  
; APPLICANT: Huang, Libua  
; APPLICANT: Shelliga, Theodore A  
; TITLE OF INVENTION: Improved Methods for Processing Activated Protein C  
; FILE REFERENCE: X-11796A  
; CURRENT APPLICATION NUMBER: US/09/667,570A  
; CURRENT FILING DATE: 2000-09-21  
; PRIOR APPLICATION NUMBER: 60/045,255  
; PRIOR FILING DATE: 1997-04-28  
; NUMBER OF SEQ ID NOS: 3  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 1  
; LENGTH: 410  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-09-667-570A-1

Query Match 98.1%; Score 2281, DB 4; Length 410;  
Best Local Similarity 100.0%; Pred. No. 4e-187;  
Matches 410; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 10 HSSLRECEIEICDPEEAKETFONVDDTLAFWSKRVDSQCLVPLEHPCASLCCGHGTC 69  
Db 1 HSSLRECEIEICDPEEAKETFONVDDTLAFWSKRVDSQCLVPLEHPCASLCCGHGTC 60  
QY 70 IDIGSFSCDCRSWGEGRFQREVSFLNCSLDNGGCTHYCLEVGMRRCSGAPGYKLGDD 129  
Db 61 IDIGSFSCDCRSWGEGRFQREVSFLNCSLDNGGCTHYCLEVGMRRCSGAPGYKLGDD 120  
QY 130 LLOCHPAVFPQGRPMKMEKRSKSHLKRTEDQEDQVDVDPRLIDGMTRGDSPMQVVLID 189  
Db 121 LLOCHPAVFPQGRPMKMEKRSKSHLKRTEDQEDQVDVDPRLIDGMTRGDSPMQVVLID 180  
QY 190 SKKLAAGAVLHPBWVLTAAHOMDESCKLVRGGEYDLRBEKWEELDLIDKEVFVHPNY 249  
Db 181 SKKLAAGAVLHPBWVLTAAHOMDESCKLVRGGEYDLRBEKWEELDLIDKEVFVHPNY 240  
QY 250 SKSTNDIALHLAQPATLSQTIIVPICDPSGLAERELNOAGETVLTGWGHSREKE 309  
Db 241 SKSTNDIALHLAQPATLSQTIIVPICDPSGLAERELNOAGETVLTGWGHSREKE 300  
QY 310 AKRRRTFVNFIKIIVYVHNCESEVSNVSENNLCAGILGRQDACEGDSGPMVASFH 369  
Db 301 AKRRRTFVNFIKIIVYVHNCESEVSNVSENNLCAGILGRQDACEGDSGPMVASFH 360  
QY 370 GTWFLVGLVSMGCGGLHNYGVYTKVSRYLDMHGHIRDEKAPQKSNAP 419  
Db 361 GTWFLVGLVSMGCGGLHNYGVYTKVSRYLDMHGHIRDEKAPQKSNAP 410

## RESULT 21

5270178-2  
; Patent No. 5270178  
; APPLICANT: GERLITZ, BRUCE F., GRINNELL, BRIAN W.  
; TITLE OF INVENTION: VECTORS AND COMPOUNDS FOR EXPRESSION OF  
; ZMOGEN FORMS OF HUMAN PROTEIN C  
; NUMBER OF SEQUENCES: 21  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/484,133  
; FILING DATE: 23-FEB-1990  
; SEQ ID NO: 2  
; LENGTH: 461  
5270178-2

Query Match 98.1%; Score 2279.5; DB 6; Length 461;  
Best Local Similarity 99.0%; Pred. No. 6.3e-187;  
Matches 416; Conservative 0; Mismatches 3; Indels 1; Gaps 1;

QY 1 ANSFLIEIRASSLIERCEIEICDPEEAKETFONVDDTLAFWSKRVDSQCLVPLEHPCA 60  
Db 42 ANSFLIEIRASSLIERCEIEICDPEEAKETFONVDDTLAFWSKRVDSQCLVPLEHPCA 101  
QY 61 SLCGHTGCLDIGSFSCDCRSWGEGRFQREVSFLNCSLDNGGCTHYCLEVGMRRCSG 120

DB 102 SLCCGHTCIDIGSFSDCDSGMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRCCSC 161  
QY 121 APGYKGLDILLQCHPAVFPQGRPMKMEKRSKSHKRDTEDEQDQVDPRLIDGMKTRRGD 180  
DB 162 APGYKGLDILLQCHPAVFPQGRPMKMEKRSKSHKRDTEDEQDQVDPRLIDGMKTRRGD 221  
QY 181 SPMQVLLDSKKKLAGAVLIHPSWVLTAAHCDMSKKLIVRLGEYDLRRMEKWEILDLDI 240  
DB 222 SPMQVLLDSKKKLAGAVLIHPSWVLTAAHCDMSKKLIVRLGEYDLRRMEKWEILDLDI 281  
QY 241 KEVFHBNYSKSTTNDIALHLAOPATLSQTIIVICLPDPSGLARELNQAGQETLVYGM 300  
DB 282 KEVFHBNYSKSTTNDIALHLAOPATLSQTIIVICLPDPSGLARELNQAGQETLVYGM 341  
QY 301 GYHSSRREKAKRRRTFVNFPIKIPVPHNCESEVSNMVSNNMLCAGILGRDQACGDS 360  
DB 342 GYHSSRREKAKRRRTFVNFPIKIPVPHNCESEVSNMVSNNMLCAGILGRDQACGDS 401  
QY 361 GPMVASFHGTWFLVGLVSWGEG-CGILHNHYGVTYKSRYLDMWIGHIRDKKAPQKSWAP 419  
DB 402 GPMVASFHGTWFLVGLVSWGEGCGILHNHYGVTYKSRYLDMWIGHIRDKKAPQKSWAP 461

## RESULT 22

US-09-065-872-2  
; Sequence 2, Application US/09065872  
; Patent No. 6162629  
; GENERAL INFORMATION:  
; APPLICANT: Baker, Jeffrey C  
; APPLICANT: Carlson, Andrew D  
; APPLICANT: Huang, Linna  
; APPLICANT: Shelliga, Theodore A  
; TITLE OF INVENTION: Improved Methods for Processing Activated Protein C  
; FILE REFERENCE: APC process patent  
; CURRENT APPLICATION NUMBER: US/09/065,872  
; CURRENT FILING DATE: 1998-04-24  
; EARLIER APPLICATION NUMBER: 60/045,255  
; EARLIER FILING DATE: 1997-04-28  
; NUMBER OF SEQ ID NOS: 2  
; SOFTWARE: PatentIn Ver. 2.0  
; SEQ ID NO 2  
; LENGTH: 409  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-09-065-872-2

## Query Match

97.8%; Score 2273; DB 3; Length 409;  
Best Local Similarity 100.0%; Pred. No. 1.9e-186;  
Matches 409; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 11 SLSRECIETCDPEBAKEIFQNVDDTLAFWSKRVDDQCLVPLBHPCASLCCGHGTCT 70  
DB 1 SLSRECIETCDPEBAKEIFQNVDDTLAFWSKRVDDQCLVPLBHPCASLCCGHGTCT 60  
QY 71 DGISFSCDCRSQMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRCCAGPYKGLDGL 130  
DB 61 DGISFSCDCRSQMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRCCAGPYKGLDGL 120  
QY 131 LQCHPAVFPQGRPMKMEKRSKSHKRDTEDEQDQVDPRLIDGMKTRRGDSPMQVLLDS 190  
DB 121 LQCHPAVFPQGRPMKMEKRSKSHKRDTEDEQDQVDPRLIDGMKTRRGDSPMQVLLDS 180  
QY 191 KKKLAGAVLIHPSWVLTAAHCDMSKKLIVRLGEYDLRRMEKWEILDLDIKEYFVHPNYS 250  
DB 181 KKKLAGAVLIHPSWVLTAAHCDMSKKLIVRLGEYDLRRMEKWEILDLDIKEYFVHPNYS 240  
QY 251 KSTTNDIALHLAOPATLSQTIIVICLPDPSGLARELNQAGQETLVYGMGYHSSRREKA 310  
DB 241 KSTTNDIALHLAOPATLSQTIIVICLPDPSGLARELNQAGQETLVYGMGYHSSRREKA 300  
QY 311 KNRFTFVNFPIKIPVPHNCESEVSNMVSNNMLCAGILGRDQACGDSGPMVASFHG 370  
DB 301 KNRFTFVNFPIKIPVPHNCESEVSNMVSNNMLCAGILGRDQACGDSGPMVASFHG 360

DB 301 KNRFTFVNFPIKIPVPHNCESEVSNMVSNNMLCAGILGRDQACGDSGPMVASFHG 360  
QY 371 TWFLVGLVSWGEGCGILHNHYGVTYKSRYLDMWIGHIRDKKAPQKSWAP 419  
DB 361 TWFLVGLVSWGEGCGILHNHYGVTYKSRYLDMWIGHIRDKKAPQKSWAP 409

## RESULT 23

US-09-667-570A-2  
; Sequence 2, Application US/09667570A  
; Patent No. 6436397  
; GENERAL INFORMATION:  
; APPLICANT: Baker, Jeffrey C  
; APPLICANT: Carlson, Andrew D  
; APPLICANT: Huang, Linna  
; APPLICANT: Shelliga, Theodore A  
; TITLE OF INVENTION: Improved Methods for Processing Activated Protein C  
; FILE REFERENCE: X-11796A  
; CURRENT APPLICATION NUMBER: US/09/667,570A  
; PRIOR APPLICATION NUMBER: 60/045,255  
; PRIOR FILING DATE: 1997-04-28  
; NUMBER OF SEQ ID NOS: 3  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 2  
; LENGTH: 409  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-09-667-570A-2

## Query Match

97.8%; Score 2273; DB 4; Length 409;  
Best Local Similarity 100.0%; Pred. No. 1.9e-186;  
Matches 409; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 11 SLSRECIETCDPEBAKEIFQNVDDTLAFWSKRVDDQCLVPLBHPCASLCCGHGTCT 70  
DB 1 SLSRECIETCDPEBAKEIFQNVDDTLAFWSKRVDDQCLVPLBHPCASLCCGHGTCT 60  
QY 71 DGISFSCDCRSQMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRCCAGPYKGLDGL 130  
DB 61 DGISFSCDCRSQMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRCCAGPYKGLDGL 120  
QY 131 LQCHPAVFPQGRPMKMEKRSKSHKRDTEDEQDQVDPRLIDGMKTRRGDSPMQVLLDS 190  
DB 121 LQCHPAVFPQGRPMKMEKRSKSHKRDTEDEQDQVDPRLIDGMKTRRGDSPMQVLLDS 180  
QY 191 KKKLAGAVLIHPSWVLTAAHCDMSKKLIVRLGEYDLRRMEKWEILDLDIKEYFVHPNYS 250  
DB 181 KKKLAGAVLIHPSWVLTAAHCDMSKKLIVRLGEYDLRRMEKWEILDLDIKEYFVHPNYS 240  
QY 251 KSTTNDIALHLAOPATLSQTIIVICLPDPSGLARELNQAGQETLVYGMGYHSSRREKA 310  
DB 241 KSTTNDIALHLAOPATLSQTIIVICLPDPSGLARELNQAGQETLVYGMGYHSSRREKA 300  
QY 311 KNRFTFVNFPIKIPVPHNCESEVSNMVSNNMLCAGILGRDQACGDSGPMVASFHG 370  
DB 301 KNRFTFVNFPIKIPVPHNCESEVSNMVSNNMLCAGILGRDQACGDSGPMVASFHG 360  
QY 371 TWFLVGLVSWGEGCGILHNHYGVTYKSRYLDMWIGHIRDKKAPQKSWAP 419  
DB 361 TWFLVGLVSWGEGCGILHNHYGVTYKSRYLDMWIGHIRDKKAPQKSWAP 409

RESULT 24  
5270178-15  
; Patent No. 5270178  
; APPLICANT: GERLITZ, BRUCE E., GRINNELL, BRIAN W.  
; TITLE OF INVENTION: VECTORS AND COMPOUNDS FOR EXPRESSION OF  
; ZYMOGEN FORMS OF HUMAN PROTEIN C  
; NUMBER OF SEQUENCES: 21  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/484,133  
; FILING DATE: 23-FEB-1990

; SEQ ID NO:15;  
; LENGTH: 460  
5270178-15

Query Match 97.7%; Score 2271.5; DB 6; Length 460;  
Best Local Similarity 96.1%; Pred. No. 3e-186;  
Matches 411; Conservative 3; Mismatches 4; Indels 1; Gaps 1;

QY 1 ANSFLELRHSLSERECIEICDFEAKETIFQVNDTTLAFMSKRVDDQCLVLPLEHCA 60  
DB 43 ANSFLELRHSLSERECIEICDFEAKETIFQVNDTTLAFMSKRVDDQCLVLPLEHCA 102  
QY 61 SLCCGHTCIDIGISFSCDCRSWGEGRCQREVSPFNSGCHYCLAEVGNRRSC 120  
DB 103 SLCCGHTCIDIGISFSCDCRSWGEGRCQREVSPFNSGCHYCLAEVGNRRSC 162  
QY 121 AEGYKLGDDLLQCHPAVKPCGRPMKMEKKRSHLRKDTEDQEDQVDPRLDGKTRRGD 180  
DB 163 AEGYKLGDDLLQCHPAVKPCGRPMKMEKKRSHLRKDTEDQEDQVDPRLDGKTRRGD 221  
QY 181 SPQVYVLLDSKKKLACGAVLIHPSVWVTLAAHCDSESKLIVRLGEYDLRRMEKWLDDI 240  
DB 222 SPQVYVLLDSKKKLACGAVLIHPSVWVTLAAHCDSESKLIVRLGEYDLRRMEKWLDDI 281  
QY 241 KEVFPVNYKSTTNDIALHLAQPATLSQTVIPICLPDSGLARELNAQGETLVYGV 300  
DB 282 KEVFPVNYKSTTNDIALHLAQPATLSQTVIPICLPDSGLARELNAQGETLVYGV 341  
QY 301 GYHSREKAKRNRTFVNFYIKI PVPHNECEYMSNMVSENMICAGILDRDACEGDS 360  
DB 342 GYHSREKAKRNRTFVNFYIKI PVPHNECEYMSNMVSENMICAGILDRDACEGDS 401  
QY 361 GGPVASFHGTWFLVGVSMGEGCGLHNYGVYTKSRVLDHGHTRDKEAPQKSNAP 419  
DB 402 GGPVASFHGTWFLVGVSMGEGCGLHNYGVYTKSRVLDHGHTRDKEAPQKSNAP 460

RESULT 25  
5270178-16  
; Patent No. 5270178  
; APPLICANT: GERLITZ, BRUCE E.; GRINNELL, BRIAN W.  
; TITLE OF INVENTION: VECTORS AND COMPOUNDS FOR EXPRESSION OF  
; ZMOGEN FORMS OF HUMAN PROTEIN C  
; NUMBER OF SEQUENCES: 21  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/484,133  
; FILING DATE: 23-FEB-1990  
; SEQ ID NO:16;  
; LENGTH: 460  
5270178-16

Query Match 96.6%; Score 2244.5; DB 6; Length 460;  
Best Local Similarity 97.1%; Pred. No. 6.1e-184;  
Matches 407; Conservative 4; Mismatches 7; Indels 1; Gaps 1;

QY 1 ANSFLELRHSLSERECIEICDFEAKETIFQVNDTTLAFMSKRVDDQCLVLPLEHCA 60  
DB 43 ANSFLELRHSLSERECIEICDFEAKETIFQVNDTTLAFMSKRVDDQCLVLPLEHCA 102  
QY 61 SLCCGHTCIDIGISFSCDCRSWGEGRCQREVSPFNSGCHYCLAEVGNRRSC 120  
DB 103 SLCCGHTCIDIGISFSCDCRSWGEGRCQREVSPFNSGCHYCLAEVGNRRSC 162  
QY 121 AEGYKLGDDLLQCHPAVKPCGRPMKMEKKRSHLRKDTEDQEDQVDPRLDGKTRRGD 180  
DB 163 AEGYKLGDDLLQCHPAVKPCGRPMKMEKKRSHLRKDTEDQEDQVDPRLDGKTRRGD 221  
QY 181 SPQVYVLLDSKKKLACGAVLIHPSVWVTLAAHCDSESKLIVRLGEYDLRRMEKWLDDI 240  
DB 222 SPQVYVLLDSKKKLACGAVLIHPSVWVTLAAHCDSESKLIVRLGEYDLRRMEKWLDDI 281  
QY 241 KEVFPVNYKSTTNDIALHLAQPATLSQTVIPICLPDSGLARELNAQGETLVYGV 300

DB 282 KEVFPVNYKSTTNDIALHLAQPATLSQTVIPICLPDSGLARELNAQGETLVYGV 341  
QY 301 GYHSREKAKRNRTFVNFYIKI PVPHNECEYMSNMVSENMICAGILDRDACEGDS 360  
DB 342 GYHSREKAKRNRTFVNFYIKI PVPHNECEYMSNMVSENMICAGILDRDACEGDS 401  
QY 361 GGPVASFHGTWFLVGVSMGEGCGLHNYGVYTKSRVLDHGHTRDKEAPQKSNAP 419  
DB 402 GGPVASFHGTWFLVGVSMGEGCGLHNYGVYTKSRVLDHGHTRDKEAPQKSNAP 460

RESULT 26  
US-07-720-189-1  
; Sequence 1, Application US/07720189  
; Patent No. 5279956  
; GENERAL INFORMATION:  
; APPLICANT: Griffin, John H.  
; APPLICANT: Masters, Rolf M.  
; TITLE OF INVENTION: APC POLYPEPTIDES AND ANTI-PEPTIDE  
; TITLE OF INVENTION: ANTIBODIES, DIAGNOSTIC METHODS AND SYSTEMS FOR INHIBITING  
; TITLE OF INVENTION: APC, AND THERAPEUTIC METHODS  
; NUMBER OF SEQUENCES: 11  
; CORRESPONDENCE ADDRESSES:  
; ADDRESSEE: The Scripps Research Institute, Office of Patent  
; ADDRESSEE: Counsel  
; STREET: 3366 No. 5279956th Torrey Pines Court, Suite 240  
; CITY: La Jolla  
; STATE: CA  
; COUNTRY: USA  
; ZIP: 92037  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; OPERATING SYSTEM: IBM PC compatible  
; SOFTWARE: Patentin Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/720,189  
; FILING DATE: 19910724  
; CLASSIFICATION: 530  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER:  
; FILING DATE:  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Bingham, Douglas  
; REGISTRATION NUMBER: 32,457  
; REFERENCE/DOCKET NUMBER: SCRO390P  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 619-554-2937  
; INFORMATION FOR SEQ ID NO: 1:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 262 amino acids  
; TYPE: AMINO ACID  
; STRANDEDNESS: single  
; TOPOLOGY: unknown  
; MOLECULE TYPE: protein  
; FEATURE:  
; NAME/KEY: Region  
; LOCATION: 1..262  
; OTHER INFORMATION: /note="In SEQ ID NO 1 is the sequence for  
; OTHER INFORMATION: the PC heavy chain, the amino acid residue positions of  
; OTHER INFORMATION: which begin at position 158 and end at 419."  
US-07-720-189-1

Query Match 61.1%; Score 1419; DB 1; Length 262;  
Best Local Similarity 100.0%; Pred. No. 1.2e-113;  
Matches 262; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 158 DTEDQEDQVDPRLDGKTRRGDSFQVYVLLDSKKKLACGAVLIHPSVWVTLAAHCDSESK 217  
DB 1 DTEDQEDQVDPRLDGKTRRGDSFQVYVLLDSKKKLACGAVLIHPSVWVTLAAHCDSESK 60  
QY 218 KLVVLYGVDLRRMEKWLDDI KEVFPVNYKSTTNDIALHLAQPATLSQTVIPIC 277

Db 61 KLVRLGEYDLRRMEKELDDIKEVFPVHPNYSKSTTNDIALHLAOPATLSQTIPIIC 120  
Qy 278 LPDSGLAEELNOAGQETLVYMGYHSREKEAKNRFTFVNFIKIPVPHNECSEWMSN 337  
Db 121 LPDSGLAEELNOAGQETLVYMGYHSREKEAKNRFTFVNFIKIPVPHNECSEWMSN 180  
Qy 338 MVSNNMLCAGILGDRDACEGDSGSPVASFHGTWFLVGLVSGEGCGLLHNYGYTTYS 397  
Db 181 MVSNNMLCAGILGDRDACEGDSGSPVASFHGTWFLVGLVSGEGCGLLHNYGYTTYS 240  
Qy 398 RYLDWIGHIRDEKAPKXSWAP 419  
Db 241 RYLDWIGHIRDEKAPKXSWAP 262

RESULT 27  
5270178-19  
; Patent No. 5270178  
; APPLICANT: GERLITZ, BRUCE E.; GRINNELL, BRIAN W.  
; TITLE OF INVENTION: VECTORS AND COMPOUNDS FOR EXPRESSION OF  
; ZYMOGEN FORMS OF HUMAN PROTEIN C  
; NUMBER OF SEQUENCES: 21  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/484,133  
; FILING DATE: 23-FEB-1990  
; SEQ ID NO:19:  
; LENGTH: 261

Query Match 60.0%; Score 1393.5; DB 6; Length 261;  
Best Local Similarity 98.9%; Pred. No. 1.8e-11;  
Matches 259; Conservative 1; Mismatches 1; Indels 1; Gaps 1;

Qy 158 DTEDEDDQVDPRLIDGKTRRGDSPPQVVLDSKKKLAGAVLIHPSWVLTAAHCWDESK 217  
Db 1 DTEDEDDQVDPRL-NGKTRRGDSPPQVVLDSKKKLAGAVLIHPSWVLTAAHCWDESK 59  
Qy 218 KLVRLGEYDLRRMEKELDDIKEVFPVHPNYSKSTTNDIALHLAOPATLSQTIPIIC 277  
Db 60 KLVRLGEYDLRRMEKELDDIKEVFPVHPNYSKSTTNDIALHLAOPATLSQTIPIIC 119  
Qy 278 LPDSGLAEELNOAGQETLVYMGYHSREKEAKNRFTFVNFIKIPVPHNECSEWMSN 337  
Db 120 LPDSGLAEELNOAGQETLVYMGYHSREKEAKNRFTFVNFIKIPVPHNECSEWMSN 179  
Qy 338 MVSNNMLCAGILGDRDACEGDSGSPVASFHGTWFLVGLVSGEGCGLLHNYGYTTYS 397  
Db 180 MVSNNMLCAGILGDRDACEGDSGSPVASFHGTWFLVGLVSGEGCGLLHNYGYTTYS 239  
Qy 398 RYLDWIGHIRDEKAPKXSWAP 419  
Db 240 RYLDWIGHIRDEKAPKXSWAP 261

RESULT 28  
5270178-20  
; Patent No. 5270178  
; APPLICANT: GERLITZ, BRUCE E.; GRINNELL, BRIAN W.  
; TITLE OF INVENTION: VECTORS AND COMPOUNDS FOR EXPRESSION OF  
; ZYMOGEN FORMS OF HUMAN PROTEIN C  
; NUMBER OF SEQUENCES: 21  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/484,133  
; FILING DATE: 23-FEB-1990  
; SEQ ID NO:20:  
; LENGTH: 261

Query Match 59.6%; Score 1384.5; DB 6; Length 261;  
Best Local Similarity 98.5%; Pred. No. 1.1e-110;  
Matches 258; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

Qy 158 DTEDEDDQVDPRLIDGKTRRGDSPPQVVLDSKKKLAGAVLIHPSWVLTAAHCWDESK 217

Db 1 DTEDEDDQVDPRL-NGKTRRGDSPPQVVLDSKKKLAGAVLIHPSWVLTAAHCWDESK 59  
Qy 218 KLVRLGEYDLRRMEKELDDIKEVFPVHPNYSKSTTNDIALHLAOPATLSQTIPIIC 277  
Db 60 KLVRLGEYDLRRMEKELDDIKEVFPVHPNYSKSTTNDIALHLAOPATLSQTIPIIC 119  
Qy 278 LPDSGLAEELNOAGQETLVYMGYHSREKEAKNRFTFVNFIKIPVPHNECSEWMSN 337  
Db 120 LPDSGLAEELNOAGQETLVYMGYHSREKEAKNRFTFVNFIKIPVPHNECSEWMSN 179  
Qy 338 MVSNNMLCAGILGDRDACEGDSGSPVASFHGTWFLVGLVSGEGCGLLHNYGYTTYS 397  
Db 180 MVSNNMLCAGILGDRDACEGDSGSPVASFHGTWFLVGLVSGEGCGLLHNYGYTTYS 239  
Qy 398 RYLDWIGHIRDEKAPKXSWAP 419  
Db 240 RYLDWIGHIRDEKAPKXSWAP 261

RESULT 29  
US-08-944-483-51  
; Sequence 51, Application US/08944483  
; Patent No. 6232456  
; GENERAL INFORMATION:  
; APPLICANT: COHEN, MAURICE  
; APPLICANT: COLPITTS, TRACEY L.  
; APPLICANT: FRIEDMAN, PAULA N.  
; APPLICANT: GRANADOS, EDWARD N.  
; APPLICANT: KLAAS, MICHAEL R.  
; APPLICANT: RUSSELL, JOHN C.  
; APPLICANT: STEWART, KENT D.  
; APPLICANT: STROOP, STEVEN D.  
; TITLE OF INVENTION: NOVEL SERINE PROTEASE REAGENTS  
; TITLE OF INVENTION: AND METHODS USEFUL FOR DETECTING AND TREATING DISEASES  
; NUMBER OF SEQUENCES: 76  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Abbott Laboratories  
; STREET: 100 Abbott Park Road  
; CITY: Abbott Park  
; STATE: IL  
; COUNTRY: USA  
; ZIP: 60064-3500  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Diskette  
; COMPUTER: IBM Compatible  
; OPERATING SYSTEM: DOS  
; SOFTWARE: FastSeq for Windows Version 2.0  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/944,483  
; FILING DATE:  
; CLASSIFICATION: 424  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER:  
; FILING DATE:  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Becker, Cheryl L.  
; REGISTRATION NUMBER: 35,441  
; REFERENCE/DOCKET NUMBER: 6183-US-01  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 847/935-1729  
; TELEFAX: 847/938-2623  
; TELEX:  
; INFORMATION FOR SEQ ID NO: 51:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 250 amino acids  
; TYPE: amino acid  
; STRANDEDNESS: single  
; TOPOLOGY: linear  
; MOLECULAR TYPE: No. 6232456e  
; US-08-944-483-51

Query Match 58.3%; Score 1354; DB 3; Length 250;  
Best Local Similarity 100.0%; Pred. No. 4.2e-108;  
Matches 250; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 170 LIDGKTRRSDSPWQVLLDSKKKLACGAVLIHPSWVLAACMDSESKLVLRGEYDR 229  
DB 1 LIDGKTRRSDSPWQVLLDSKKKLACGAVLIHPSWVLAACMDSESKLVLRGEYDR 60  
QY 230 RWEKWELELDIKEVFVHPNYSKSTTDNDIALHLAQPATLSQTIPTICDPSGLARELN 289  
DB 61 RWEKWELELDIKEVFVHPNYSKSTTDNDIALHLAQPATLSQTIPTICDPSGLARELN 120  
QY 290 QAGQETLVGMGYSSEKREKARNRTFVLFNFIKIPVPHNECEVMSNMSENLCAGL 349  
DB 121 QAGQETLVGMGYSSEKREKARNRTFVLFNFIKIPVPHNECEVMSNMSENLCAGL 180  
QY 350 GDRQACEGDSGCPMVASFPGTWFLVGLVSGEGCLLNNGVYTKVSRYLDMIGHIRD 409  
DB 181 GDRQACEGDSGCPMVASFPGTWFLVGLVSGEGCLLNNGVYTKVSRYLDMIGHIRD 240  
QY 410 KEAPQKSNAP 419  
DB 241 KEAPQKSNAP 250

RESULT 30  
5270178-21  
; Patent No. 5270178  
; APPLICANT: GERLITZ, BRUCE E.; GRINNELL, BRIAN W.  
; TITLE OF INVENTION: VECTORS AND COMPOUNDS FOR EXPRESSION OF  
; ZYMOGEN FORMS OF HUMAN PROTEIN C  
; NUMBER OF SEQUENCES: 21  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/484,133  
; FILING DATE: 23-FEB-1990  
; SEQ ID NO: 21:  
; LENGTH: 261  
5270178-21

Query Match 57.9%; Score 1346.5; DB 6; Length 261;  
Best Local Similarity 96.2%; Pred. No. 1.9e-107;  
Matches 252; Conservative 2; Mismatches 7; Indels 1; Gaps 1;

QY 158 DTEBQEDQVDPRLIDGKTRRSDSPWQVLLDSKKKLACGAVLIHPSWVLAACMDSESK 217  
DB 1 DTEBQEDQVDPRLIDGKTRRSDSPWQVLLDSKKKLACGAVLIHPSWVLAACMDSESK 59  
QY 218 KLVRLGEYDLRRWEKWELELDIKEVFVHPNYSKSTTDNDIALHLAQPATLSQTIPTIC 277  
DB 60 KLVRLGEYDLRRWEKWELELDIKEVFVHPNYSKSTTDNDIALHLAQPATLSQTIPTIC 119  
QY 278 LPDSGLARELNQAGQETLVGMGYSSEKREKARNRTFVLFNFIKIPVPHNECEVMSN 337  
DB 120 LPDSGLARELNQAGQETLVGMGYSSEKREKARNRTFVLFNFIKIPVPHNECEVMSN 179  
QY 338 MVSSENLCAGLIGDRQACEGDSGCPMVASFPGTWFLVGLVSGEGCLLNNGVYTKVS 397  
DB 180 MVSSENLCAGLIGDRQACEGDSGCPMVASFPGTWFLVGLVSGEGCLLNNGVYTKVS 239  
QY 398 RYLDWTHIGHIRKKEAPKSNAP 419  
DB 240 RYLDWTHIGHIRKKEAPKSNAP 261

RESULT 31  
5270178-5  
; Patent No. 5270178  
; APPLICANT: GERLITZ, BRUCE E.; GRINNELL, BRIAN W.  
; TITLE OF INVENTION: VECTORS AND COMPOUNDS FOR EXPRESSION OF  
; ZYMOGEN FORMS OF HUMAN PROTEIN C  
; NUMBER OF SEQUENCES: 21  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/484,133

FILING DATE: 23-FEB-1990  
; SEQ ID NO: 5:  
; LENGTH: 261  
5270178-5

Query Match 57.2%; Score 1328.5; DB 6; Length 261;  
Best Local Similarity 95.0%; Pred. No. 6.6e-106;  
Matches 249; Conservative 0; Mismatches 12; Indels 1; Gaps 1;

QY 158 DTEBQEDQVDPRLIDGKTRRSDSPWQVLLDSKKKLACGAVLIHPSWVLAACMDSESK 217  
DB 1 DTEBQEDQVDPRLIDGKTRRSDSPWQVLLDSKKKLACGAVLIHPSWVLAACMDSESK 59  
QY 218 KLVRLGEYDLRRWEKWELELDIKEVFVHPNYSKSTTDNDIALHLAQPATLSQTIPTIC 277  
DB 60 KLVRLGEYDLRRWEKWELELDIKEVFVHPNYSKSTTDNDIALHLAQPATLSQTIPTIC 119  
QY 278 LPDSGLARELNQAGQETLVGMGYSSEKREKARNRTFVLFNFIKIPVPHNECEVMSN 337  
DB 120 LPDSGLARELNQAGQETLVGMGYSSEKREKARNRTFVLFNFIKIPVPHNECEVMSN 179  
QY 338 MVSSENLCAGLIGDRQACEGDSGCPMVASFPGTWFLVGLVSGEGCLLNNGVYTKVS 397  
DB 180 MVSSENLCAGLIGDRQACEGDSGCPMVASFPGTWFLVGLVSGEGCLLNNGVYTKVS 239  
QY 398 RYLDWTHIGHIRKKEAPKSNAP 419  
DB 240 RYLDWTHIGHIRKKEAPKSNAP 261

RESULT 32  
US-08-469-486-53  
; Sequence 53, Application US/08469486  
; Patent No. 5739281  
; GENERAL INFORMATION:  
; APPLICANT: Thøgersen, Hans Christian  
; APPLICANT: Holte, Thor Lae  
; APPLICANT: Etzerodt, Michael  
; TITLE OF INVENTION: Improved method for the refolding of  
; NUMBER OF SEQUENCES: 58  
; CORRESPONDENCE ADDRESS:  
; ADDRESS: Fish & Richardson  
; STREET: 225 Franklin Street  
; CITY: Boston  
; STATE: Massachusetts  
; COUNTRY: USA  
; ZIP: 02110-2804  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version  
; SOFTWARE: #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/469,486  
; FILING DATE:  
; CLASSIFICATION: 530  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: 08/192,060  
; FILING DATE: February 4, 1994  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Paul T. Clark  
; REGISTRATION NUMBER: 30,162  
; REFERENCE/DOCKET NUMBER: 06363/002001  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 617 542 5070  
; TELEFAX: 617 542 8906  
; TELETYPE: 200154  
; INFORMATION FOR SEQ ID NO: 53:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 487 amino acids  
; TYPE: amino acid

STRANDEDNESS:  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-469-486-53

Query Match 34.8%; Score 809.5; DB 1; Length 487;  
Best Local Similarity 36.8%; Pred. No. 3,4e-61;  
Matches 172; Conservative 72; Mismatches 150; Indels 73; Gaps 13;

QY 1 ANSFLERLRSSLRRCLEIEICDFEAKEIFONVDDTLAWSKHVDGQCLVLEHPCA 60  
DB 41 ANSFLERVRQGNLERRELEACSLERARVEFEDAQTDFMSKXKDQC---EGHPC 96  
QY 61 SLCCGCTCIDGIGSPDCRSGWEGRFQ---REVSLNCSLNGGCTHYCLEVGMRR 117  
DB 97 N-----QHCXDGIGDYITCTCABGFGKNCSTRET---CSLNGGCTQFRRERSEVR 148  
QY 118 CSCAPGYKGLDGLLOCHPAVFPQGR--PWKMEKRSRLKRTED--QEDVDP----- 168  
DB 149 CSCAHGYVLGDBSKSCVSTERFPGKFTQGRSRMAIHSTEDALDASELHYPADLSPT 208  
QY 169 -----RLDGKTRGDSFPQVYLLDSKKLAAGAVLIHPS 204  
DB 209 ESSLDLGLNTEPSAGEDSGQVAVIGRDCAEGECFQWALLVNEENEGFCGGIINEF 268  
QY 205 WYLAACHMDESCKLLVRLGEYDLRMEKWEILDIDKEVFVHPYNSKSTTNDIALHLA 264  
DB 269 YVLAACHLQAKRFTYVGDNRTEQEBGNMAHEVMTVHRSFKETIDPDIAVLRLK 328  
QY 265 QPATLSQTIPTICLPDGLARELNQAGQET-LVTGMGYHSSRREKAKNRRTFVLIPIKI 323  
DB 329 TPFRRRRVAPACLPKDMAEATL--MTQKTGIVSGFG-----RTHKGRSLTKMLEV 381  
QY 324 PVPFHNCSEVMNSMSEMLCAGILGRDACEGSGGPMVASFHGTWPLVGLVSGEG 383  
DB 382 PVDKSTCKLSSFTTPMFCAGYDTOPDCAQDSGGPHTFRKDTYFVTVGIVSGEG 441  
QY 384 CGLHNYGVYTKVRSYLDNI-----HGHIRDKEAPQKSW 417  
DB 442 CARKGKGVYTKVSNFLKIMDKIMKARAGAGSRGH---SEAP-ATW 484

RESULT 33  
US-08-469-658-53  
Sequence 53, Application US/08469658  
Patent No. 5917018  
GENERAL INFORMATION:  
APPLICANT: In egeresen, Hans Christian  
APPLICANT: Holteet, Thor Las  
APPLICANT: Etzerodt, Michael  
TITLE OF INVENTION: IMPROVED METHOD FOR THE REFOOLDING OF  
NUMBER OF SEQUENCES: 58  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Fish & Richardson P.C.  
STREET: 225 Franklin Street  
CITY: Boston  
STATE: Massachusetts  
COUNTRY: USA  
ZIP: 02110-2804  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version  
SOFTWARE: #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/469, 658  
FILING DATE: June 5, 1995  
CLASSIFICATION: 530  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/192,060  
FILING DATE: February 4, 1994

CLASSIFICATION: 530  
ATTORNEY/AGENT INFORMATION:  
NAME: Paul T. Clark  
REGISTRATION NUMBER: 30,162  
REFERENCE/DOCKET NUMBER: 06363/002002  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 617 542 5070  
TELEFAX: 617 542 8906  
TELEX: 200154  
INFORMATION FOR SEQ ID NO: 53:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 487 amino acids  
TYPE: amino acid  
STRANDEDNESS:  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-469-658-53

Query Match 34.8%; Score 809.5; DB 2; Length 487;  
Best Local Similarity 36.8%; Pred. No. 3,4e-61;  
Matches 172; Conservative 72; Mismatches 150; Indels 73; Gaps 13;

QY 1 ANSFLERLRSSLRRCLEIEICDFEAKEIFONVDDTLAWSKHVDGQCLVLEHPCA 60  
DB 41 ANSFLERVRQGNLERRELEACSLERARVEFEDAQTDFMSKXKDQC---EGHPC 96  
QY 61 SLCCGCTCIDGIGSPDCRSGWEGRFQ---REVSLNCSLNGGCTHYCLEVGMRR 117  
DB 97 N-----QHCXDGIGDYITCTCABGFGKNCSTRET---CSLNGGCTQFRRERSEVR 148  
QY 118 CSCAPGYKGLDGLLOCHPAVFPQGR--PWKMEKRSRLKRTED--QEDVDP----- 168  
DB 149 CSCAHGYVLGDBSKSCVSTERFPGKFTQGRSRMAIHSTEDALDASELHYPADLSPT 208  
QY 169 -----RLDGKTRGDSFPQVYLLDSKKLAAGAVLIHPS 204  
DB 209 ESSLDLGLNTEPSAGEDSGQVAVIGRDCAEGECFQWALLVNEENEGFCGGIINEF 268  
QY 205 WYLAACHMDESCKLLVRLGEYDLRMEKWEILDIDKEVFVHPYNSKSTTNDIALHLA 264  
DB 269 YVLAACHLQAKRFTYVGDNRTEQEBGNMAHEVMTVHRSFKETIDPDIAVLRLK 328  
QY 265 QPATLSQTIPTICLPDGLARELNQAGQET-LVTGMGYHSSRREKAKNRRTFVLIPIKI 323  
DB 329 TPFRRRRVAPACLPKDMAEATL--MTQKTGIVSGFG-----RTHKGRSLTKMLEV 381  
QY 324 PVPFHNCSEVMNSMSEMLCAGILGRDACEGSGGPMVASFHGTWPLVGLVSGEG 383  
DB 382 PVDKSTCKLSSFTTPMFCAGYDTOPDCAQDSGGPHTFRKDTYFVTVGIVSGEG 441  
QY 384 CGLHNYGVYTKVRSYLDNI-----HGHIRDKEAPQKSW 417  
DB 442 CARKGKGVYTKVSNFLKIMDKIMKARAGAGSRGH---SEAP-ATW 484

RESULT 34  
US-08-469-486-2  
Sequence 2, Application US/08469486  
Patent No. 5739281  
GENERAL INFORMATION:  
APPLICANT: Thoegeesen, Hans Christian  
APPLICANT: Holteet, Thor Las  
APPLICANT: Etzerodt, Michael  
TITLE OF INVENTION: Improved method for the refolding of  
NUMBER OF SEQUENCES: 58  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Fish & Richardson  
STREET: 225 Franklin Street  
CITY: Boston  
STATE: Massachusetts  
COUNTRY: USA  
ZIP: 02110-2804



COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent Release #1.0, Version  
SOFTWARE: #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/469,486  
FILING DATE:  
CLASSIFICATION: 530  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/192,060  
FILING DATE: February 4, 1994  
ATTORNEY/AGENT INFORMATION:  
NAME: Paul T. Clark  
REGISTRATION NUMBER: 30,162  
REFERENCE/DOCKET NUMBER: 06363/002001  
TELEPHONE: 617 542 5070  
TELEFAX: 617 542 8906  
TELEX: 200154  
INFORMATION FOR SEQ. ID NO. 2:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 492 amino acids  
TYPE: amino acid  
STRANDEDNESS:  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-469-486-2

Query Match 34.8%; Score 809.5; DB 1; Length 492;  
Best Local Similarity 36.8%; Pred. No. 3.5e-61;  
Matches 172; Conservative 72; Mismatches 150; Indels 73; Gaps 13;

QY 1 ANSFLEELHSSLEECIEBICDFEBAKIFONVDTLAFWSKRVDSQCLVPLEHPCA 60  
DB 41 ANSFLEEVKQNLERECLEBACSLERAREVEDAEQDEFWSKYKDGQC---EGHPCL 96  
QY 61 SLCCGHGTICDIGISFSCDCRSQWGRFCQ---REVSLNCSLDNGGCTHYCLEEYGMWR 117  
DB 97 N---QGHCKDGIIDYCTCAEGFBGKNCSTREI---CSLDNGGCTHYCLEEYGMWR 148  
QY 118 CSAPGYKLDLLOCHPAVYPCGR-PKMKMEKRSKRLKRTED--QEDQVDP----- 168  
DB 149 CSAPGYKLDLLOCHPAVYPCGR-PKMKMEKRSKRLKRTED--QEDQVDP----- 208  
QY 169 -----RLIDGKMTREGDSPQVYVLLDSKKKLACGAVLIHPS 204  
DB 209 ESSLDLGLNRTPEPAGEDSGYVRIYVGRDCACBCECPWALLVNEEWGFCGGTILNEF 268  
QY 205 WLTAAHCHQAKRFTYVAGDRNTEQEGENMAHEVMTYKSRFVKETYPDIAVLRLK 264  
DB 269 YVLTAAHCHQAKRFTYVAGDRNTEQEGENMAHEVMTYKSRFVKETYPDIAVLRLK 328  
QY 265 QPALTSGTIVPICLPDSGLARELINAQGET-LYTGWGHSSREKAKRNRFTVLANFIKI 323  
DB 329 TPRIFRNVAAPACLPEDKMAEATL--MTQKGTIVSGFG-----RTHKGRSLSTLKML 381  
QY 324 PVPVHNECEVSNVSNVSNMLCAGILIGDRQACBDSGSPVASFPGTWPLVGVSGMS 383  
DB 382 PVPVHNECEVSNVSNVSNMLCAGILIGDRQACBDSGSPVASFPGTWPLVGVSGMS 441  
QY 384 CGLLNHYGYTYKSRVYDMLT-----HGHTRDEXAPQKSW 417  
DB 442 CARKGKFGYTYKSRVYDMLT-----HGHTRDEXAPQKSW 484

RESULT 35  
US-08-469-658-2  
Sequence 2, Application US/08469658  
Patent No. 5917018  
GENERAL INFORMATION:  
APPLICANT: Th egersen, Hans Christian

APPLICANT: Holbet, Thor las  
APPLICANT: Eitzrodt, Michael  
TITLE OF INVENTION: IMPROVED METHOD FOR THE REFOOLDING OF  
TITLE OF INVENTION: PROTEINS  
NUMBER OF SEQUENCES: 58  
CORRESPONDENCE ADDRESS:  
ADDRESS: Fish & Richardson P.C.  
STREET: 225 Franklin Street  
CITY: Boston  
STATE: Massachusetts  
COUNTRY: USA  
ZIP: 02110-2804

COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent Release #1.0, Version  
SOFTWARE: #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/469,658  
FILING DATE:  
CLASSIFICATION: 530  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/192,060  
FILING DATE: February 4, 1994  
ATTORNEY/AGENT INFORMATION:  
NAME: Paul T. Clark  
REGISTRATION NUMBER: 30,162  
REFERENCE/DOCKET NUMBER: 06363/002002  
TELEPHONE: 617 542 5070  
TELEFAX: 617 542 8906  
TELEX: 200154  
INFORMATION FOR SEQ. ID NO. 2:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 492 amino acids  
TYPE: amino acid  
STRANDEDNESS:  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-469-658-2

Query Match 34.8%; Score 809.5; DB 2; Length 492;  
Best Local Similarity 36.8%; Pred. No. 3.5e-61;  
Matches 172; Conservative 72; Mismatches 150; Indels 73; Gaps 13;

QY 1 ANSFLEELHSSLEECIEBICDFEBAKIFONVDTLAFWSKRVDSQCLVPLEHPCA 60  
DB 41 ANSFLEEVKQNLERECLEBACSLERAREVEDAEQDEFWSKYKDGQC---EGHPCL 96  
QY 61 SLCCGHGTICDIGISFSCDCRSQWGRFCQ---REVSLNCSLDNGGCTHYCLEEYGMWR 117  
DB 97 N---QGHCKDGIIDYCTCAEGFBGKNCSTREI---CSLDNGGCTHYCLEEYGMWR 148  
QY 118 CSAPGYKLDLLOCHPAVYPCGR-PKMKMEKRSKRLKRTED--QEDQVDP----- 168  
DB 149 CSAPGYKLDLLOCHPAVYPCGR-PKMKMEKRSKRLKRTED--QEDQVDP----- 208  
QY 169 -----RLIDGKMTREGDSPQVYVLLDSKKKLACGAVLIHPS 204  
DB 209 ESSLDLGLNRTPEPAGEDSGYVRIYVGRDCACBCECPWALLVNEEWGFCGGTILNEF 268  
QY 205 WLTAAHCHQAKRFTYVAGDRNTEQEGENMAHEVMTYKSRFVKETYPDIAVLRLK 264  
DB 269 YVLTAAHCHQAKRFTYVAGDRNTEQEGENMAHEVMTYKSRFVKETYPDIAVLRLK 328  
QY 265 QPALTSGTIVPICLPDSGLARELINAQGET-LYTGWGHSSREKAKRNRFTVLANFIKI 323  
DB 329 TPRIFRNVAAPACLPEDKMAEATL--MTQKGTIVSGFG-----RTHKGRSLSTLKML 381  
QY 324 PVPVHNECEVSNVSNVSNMLCAGILIGDRQACBDSGSPVASFPGTWPLVGVSGMS 383

Db 382 PYVDNSTCKSSFFITPMFCAGYDTPEDACQSDSGPVTFRKDTYFVTGIYSWMEG 441  
QY 384 CGLLNKGYVTKVSRYLDMT-----HGHRDKKAPQKSW 417  
Db 442 CARXKRGVYTKVSNFLKMDIKMKARAGASGRH---SEAP-ATM 484

RESULT 36  
PCT-US92-10068-1  
Sequence 1, Application PC/TUS9210068  
GENERAL INFORMATION:  
APPLICANT: Altieri, Dario C  
APPLICANT: Edgington, Thomas S  
APPLICANT: Fair, Daryl S  
TITLE OF INVENTION: Factor X-Derived Polypeptides and  
TITLE OF INVENTION: Anti-Peptide Antibodies, Systems and  
TITLE OF INVENTION: for Inhibiting Inflammation  
NUMBER OF SEQUENCES: 19  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Office of Patent Counsel, The Scripps  
ADDRESSEE: Research Institute  
STREET: 10666 North Torrey Pines Road  
CITY: La Jolla  
STATE: CA  
COUNTRY: USA  
ZIP: 92037  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: PCT/US92/10068  
FILING DATE: 19921120  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/798,221  
FILING DATE: 22-NOV-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Fitting, Thomas  
REGISTRATION NUMBER: SCR1221P  
REFERENCE/DOCKET NUMBER: 34,163  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 619-554-2937  
TELEFAX: 619-554-6312  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 448 amino acids  
TYPE: AMINO ACID  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHEICAL: NO  
FEATURE:  
NAME/KEY: Region  
LOCATION: 1..139  
OTHER INFORMATION: /note= "Factor X light Chain"  
FEATURE:  
NAME/KEY: Region  
LOCATION: 140..142  
OTHER INFORMATION: /note= "Factor X Connecting  
OTHER INFORMATION: Tripeptide"  
NAME/KEY: Region  
LOCATION: 143..448  
OTHER INFORMATION: /note= "Factor X Heavy Chain"  
PCT-US92-10068-1

Query Match 34.8%; Score 809; DB 5; Length 448;  
Best Local Similarity 35.7%; Pred. No. 3,4e-61;  
Matches 163; Conservative 87; Mismatches 151; Indels 56; Gaps 9;

QY 1 ANSFLEKRLHSSLEKCEIEICDFEAKETIFQNDVDTLAFWSHVDGQCLVLEHPCA 60

Db 1 ANSFLEKRLHSSLEKCEIEICDFEAKETIFQNDVDTLAFWSHVDGQCLVLEHPCA 60  
QY 61 SLCCGHGTCIDIGISFSCDCRSGMEGRFCQREVSFLNCSLNDGCTHYCLEEVMRRCSC 120  
Db 55 --CQNGKCKDGLAEVYCTCLEGFEGRNCELFTRL--CSLNDGDDQPCHEEONSIVSC 111  
QY 121 APGYLSDDLLQCHPAKFPCCRPKMKKKRSHLRDTEQED-----QVD 167  
Db 112 ARGYTLADNGACLPFGPPCKK--QTLERRKSVQAATSSSGEAPDSITWKPYDAADD 169  
QY 168 P-----RLDGKMTGRGSPMOWVLDSKKKLACAGAVLHDS 204  
Db 170 PIENPFDDLDNQGPERGNNLTIVGQCCQDSCCPQALLNENBEGCGTLLSEF 229  
QY 205 WTLTAACMDESKLIVRLGEYDLRWEKBLDLDKEVFPVNYKSTJNDIALHLIA 264  
Db 230 YLTAHCLYQAKRFKVRVGDNRTEGEGEAVHEVYVKNFTFETYPDPIATLRLK 289  
QY 265 QPRTLSQIVTICLPDSGLAEELNQAQGT-LVTGMGTHSSREKAKNRRTVLFKI 323  
Db 290 TPTFRMNVAPACLPFRDWAESTL--MTQRTGIVSGFRTHKROSTR----LKMLEV 342  
QY 324 PVPFNECEYVSNMYSNNMLCAGILGDODACGSDSGPMTVAFHGTWFLVGLYSWMEG 383  
Db 343 PYVDNSTCKSSFFITPMFCAGYDTPEDACQSDSGPHTFRKDTYFVTGIYSWMEG 402  
QY 384 CGLLNKGYVTKVSRYLDMTHGHRDKKAPQ-KSWAP 419  
Db 403 CARXKRGVYTKVSNFLKMDIKMKARAGASGRH---SEAP-ATM 484

RESULT 37  
US-08-295-411-3  
Sequence 3, Application US/08295411  
GENERAL INFORMATION:  
APPLICANT: Griffin, John H.  
APPLICANT: Westers, Rolf M.  
TITLE OF INVENTION: Serine Protease-Derived Polypeptides and  
TITLE OF INVENTION: Anti-Peptide Antibodies, Systems and Therapeutic Methods  
NUMBER OF SEQUENCES: 10  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Office of Patent Counsel, The Scripps  
ADDRESSEE: Research Institute  
STREET: 10666 No. 5679639th Torrey Pines Road, TPC 8  
CITY: La Jolla  
STATE: CA  
COUNTRY: USA  
ZIP: 92037  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/295,411  
FILING DATE: 22-AUG-1994  
CLASSIFICATION: 530  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/793,989  
FILING DATE: 18-NOV-1991  
CLASSIFICATION: 530  
ATTORNEY/AGENT INFORMATION:  
NAME: Fitting, Thomas  
REGISTRATION NUMBER: 34,163  
REFERENCE/DOCKET NUMBER: TSP1263.0C1  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 619-554-2937  
TELEFAX: 619-554-6312  
INFORMATION FOR SEQ ID NO: 3:  
SEQUENCE CHARACTERISTICS:

Query Match	34.7%;	Score 807;	DB 1;	Length 448;
Best Local Similarity	35.4%;	Pred. No. 5.1e-61;		
Matches 162;	Conservative 88;	Mismatches 151;	Indels 56;	Gaps 9

QY	1	ANSFLEELHSHSLRECEIEBIECDPEANEFLPQNVDDTLAFMSKAVDQCVLPLEHPCA	60
Db	1	ANSFLEEMKGLHREEMETGCSYEAEAEVEFSDTKTFNFMNKKDKDGCETSP-----	54
QY	61	SLLCGHGTCDIDISGSCDRSGMGRCRCEVSPFNGSLNGCTHHGLCEVGRRCSC	120
Db	55	--CQNGCKKGBLEHYCTCTGEGFSGKCELFTRKL--CSLNGSCDQFCHESQNSVWSC	111
QY	121	APGYKLGDDLIQCHPAVKPFCGRPWKRRKKKSHLRDTEQED-----QYD	167
Db	112	ARGYTLADNGKACIPTPPYCGK--QTLERRKSAVQAQSSSGAPDSITWKPYYADLD	169
QY	168	P-----RLDGGKTRRSGSPMYQVLLDSSKKLACGANVLHPS	204
Db	170	PTENPFDLIDPQIQPERGKNNLITRIYVGQSCGSGCPQALNLNENSGFGGTTISER	229
QY	205	WVLTAAHCNDESKLVLRLGEYDLRMKEWELDIDKEFVHPNYSKSTJDDIALTLA	264
Db	230	YIILAAHCLYQKCFKFRVYGDRTQEGGBAHHVEVYIKHNFRTFETPYDPLAVIRLK	289
QY	265	QPMLSQITVPICLPDSGLAEELNQAQGEI-LVYMGVHSSRKXEAKKRRFVULNTIKI	323
Db	290	TPITFRMNAAPACIPEDWHESTL--MTQKGVISGFGTEHKGRQSTR-----LKELEV	342
QY	324	PVYPHNECEVSMVSNENNLCAGLILDRODACRSGSGGPMVAFFBGTFTVLGVLSMGG	383
Db	343	PYVDNRNSCLSSFLITQNNFCAGYDTQEDACQSGSGGPHYTFKDTYFVLGVLSMGG	402
QY	384	CGLLHNYGYTVVSRYLDWTHGHIDKAAQ--KSNAP	419
Db	403	CARRKKGILYIVTAFLKMLDSSMKTRCLPPAASNAH	439

RESULT 38  
 US-08-955-471-3  
 Sequence 3, Application US/08955471  
 Patent No. 5968751  
 GENERAL INFORMATION:  
 APPLICANT: Griffin, John H.  
 APPLICANT: Meesters, Rolf M.  
 TITLE OF INVENTION: Serine Protease-Derived Polypeptides and  
 TITLE OF INVENTION: Anti-Peptide Antibodies, Systems and Therapeutic Methods  
 TITLE OF INVENTION: for Inhibiting Coagulation  
 NUMBER OF SEQUENCES: 10  
 CORRESPONDENCE ADDRESSES:  
 ADDRESSEE: Office of Patent Counsel, The Scripps  
 ADDRESSEE: Research Institute  
 STREET: 10666 No. 5968751th Torrey Pines Road, TPC 8

```

1 CITY: La Jolla
2 STATE: CA
3 COUNTRY: USA
4 ZIP: 92037
5
6 COMPUTER READABLE FORM:
7 MEDIUM TYPE: Floppy disk
8 COMPUTER: IBM PC compatible
9 OPERATING SYSTEM: PC-DOS/MS-DOS
10 SOFTWARE: Patent Release #1.0, Version #1.25
11
12 CURRENT APPLICATION DATA:
13 APPLICATION NUMBER: US/08/955,471
14 FILING DATE:
15 CLASSIFICATION:
16 PRIORITY APPLICATION DATA:
17 APPLICATION NUMBER: 08/295,411
18 FILING DATE:
19 CLASSIFICATION:
20 ATTORNEY/AGENT INFORMATION:
21 NAME: Fitting, Thomas
22 REGISTRATION NUMBER: 34,163
23 REFERENCE/DOCKET NUMBER: TSR1263.0C1
24 TELECOMMUNICATION INFORMATION:
25 TELEPHONE: 619-554-2937
26 TELEFAX: 619-554-6312
27 INFORMATION FOR SEQ ID NO: 3:
28 SEQUENCE CHARACTERISTICS:
29 LENGTH: 448 amino acids
30 TYPE: amino acid
31 TOPOLOGY: linear
32 MOLECULE TYPE: protein
33 HYPOTHEICAL: NO
34 ANTI-SENSE: NO
35 FEATURE:
36 NAME/KEY: Region
37 LOCATION: 1..119
38 OTHER INFORMATION: /note= "Factor X Light Chain"
39 FEATURE:
40 NAME/KEY: Region
41 LOCATION: 140..142
42 OTHER INFORMATION: /note= "Factor X Connecting
43 OTHER INFORMATION: Tripeptide"
44 FEATURE:
45 NAME/KEY: Region
46 LOCATION: 143..448
47 OTHER INFORMATION: /note= "Factor X Heavy Chain"
48 US-08-955-471-3
49
50 Query Match 34.7% Score 807; DB 2; Length 448;
51 Best local Similarity 35.4%; Pred. No. 5,1e-61;
52 Matches 162; Conservative 80; Mismatches 151; Indels 56; Gaps 9
53
54 1 ANSLEELHSHSLRECEIEICDPFEAKELFQVNDPLTAFMSKRVNDGDCVLTPLHPCA 60
55 1 ANSLFLEMKKHLRECEMETCSYEAEAVFEDSDKTINEFNKKYKGDGCETSP----- 54
56
57 61 SLCSGNGTIDGISESCCRSGMGWGRFCQREVSFLNCSLDNGGCTHYCLEVWGRCSC 120
58 55 --CQNGCKKRGLEIYCTCLEGFGRKNCBLFTRKI--CSLDNGCQDFCHEONSIVVSC 111
59
60 121 APGKAGDGLQCHPAKYPGCRPKMKMKKRSKSLKRTDQED-----QVD 167
61 112 ARGTLIDNGKACPIPTPYCGK--QLTERKRSVAQATSSSGAPDSTITKPYDADLD 169
62
63 168 P-----RLDGKMTGRGDSFVQVLLDSKKKLACGAVLIHS 204
64 170 PTENPFLIDFNOQTQPRGDNMLTRIVAGQBCDKGCEPMQALLINENKGFPGGIISEF 229
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66 205 WVLTAHCHWDSKSLVLRGEVDLRRKMKEDLDIKVLFVHPVYSKSTNDIALHLA 264
67 230 YILTAHCHYQKKPKFKVKGSDKNTQEGEGEAVHEVVIYKRFTEKYTDILAVRLK 289
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69 265 QPATSQITVPLCLPDSGLARELNQAGQET-LVTGNGYHSSPREKAKNRTFVILNFIKI 323

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Db 290 TPITFRMNAVAPACLEPRDWAESTL--MTOKTGISVGFGRTHKRGOSTR-----LKMLEV 342  
Qy 324 PVPBNECEVMSNMVSENMLCAGILGRDQACEDSGSGPVASFHGTWFLVGLVSMGEG 383  
Db 343 PVDNNSCKLSSFFITTMFCAGIDTKQEDACQSDSGSPHVTFRKDTYFTVGLVSMGEG 402  
Qy 384 CGLLHNYGVYTKVSRYLDMHIGHIRDKEAPQ-KSNAP 419  
Db 403 CARKGKGIYTKVTAFLKMDRSMKTRGLPKAKSHAP 439

## RESULT 39

PCT-US92-10242-3  
Sequence 3, Application PC/TUS9210242

GENERAL INFORMATION:  
APPLICANT: Griffin, John H.  
APPLICANT: Meesters, Rolf  
TITLE OF INVENTION: Serine Protease-Derived Polypeptides and  
TITLE OF INVENTION: Anti-Peptide Antibodies, Systems and Therapeutic Methods  
NUMBER OF SEQUENCES: 10  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Office of Patent Counsel, The Scripps  
ADDRESSER: Research Institute  
STREET: 10666 North Torrey Pines Road, TPC 8  
CITY: La Jolla  
STATE: CA  
COUNTRY: USA  
ZIP: 92037

COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: PCT/US92/10242  
FILING DATE: 19921118  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/793,989  
FILING DATE: 18-NOV-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Fitting, Thomas  
REGISTRATION NUMBER: 34,163  
REFERENCE/DOCKET NUMBER: SCR0472P  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 619-554-2937  
TELEFAX: 619-554-6312  
INFORMATION FOR SEQ ID NO: 3:

SEQUENCE CHARACTERISTICS:  
LENGTH: 448 amino acids  
TYPE: AMINO ACID  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHEICAL: NO  
ANTI-SENSE: NO  
FEATURE:  
NAME/KEY: Region  
LOCATION: 1..139  
OTHER INFORMATION: /note= "Factor X light Chain"  
FEATURE:  
NAME/KEY: Region  
LOCATION: 140..142  
OTHER INFORMATION: /note= "Factor X Connecting  
OTHER INFORMATION: Tripeptide"  
NAME/KEY: Region  
LOCATION: 143..448  
OTHER INFORMATION: /note= "Factor X Heavy Chain"  
PCT-US92-10242-3

Query Match 34.7%; Score 807; DB 5; Length 448;  
Best Local Similarity 35.4%; Pred. No. 5,1e-61;

Matches 162; Conservative 88; Mismatches 151; Indels 56; Gaps 9;  
Qy 1 ANSPFELREIRSSRECIETCEDEEAKELFQNVDTLAFSKHYVGDQCVLPLEHCA 60  
Db 1 ANSPFELREIRSSRECIETCEDEEAKELFQNVDTLAFSKHYVGDQCVLPLEHCA 60  
Qy 61 SLCCGHTCIDIGSPSCDCSGWEGRCFCQREVSFLNGLNGGCTHYCLEVGRRCSC 120  
Db 55 --CQNGKCKBGLGEVTCLEGFEGKNCLEFRLT-CSLNGCCQFCHERQNVSC 111  
Qy 121 APGYLDGDLIQHPAVKPCGPRPKMKRSHLKRDTEDQD-----QVD 167  
Db 112 ARGYTLADNGKACIPGYPYCGK--QTLERRKSVQAQATSSSGEAPDILWXPYADALD 169  
Qy 168 P-----RLDGMTRGDSQPMOVLLDSKKLACAVLHPS 204  
Db 170 PTENPFLLDPNTOGERGDNLTFRIVGQSCQDGCPCPQALLNENBFCGCTLLSEF 229  
Qy 205 WYLAHAGHCBESKLLVRLGEYDLRWEKWLDDIKFVHPYNSKSTTDNDIALHLA 264  
Db 230 YILTAHGLVQAKRFVAVGDRNTEQEGEAVHEVVIKNNFTKEYPDPIAVLRLX 289  
Qy 265 QPALTSGTIVPILCPDGLAEHLNONGQRT-LVTGWYHSSREKAKRRTFVLNFIKI 323  
Db 290 TPITFRMNAVAPACLEPRDWAESTL--MTOKTGISVGFGRTHKRGOSTR-----LKMLEV 342  
Qy 324 PVPBNECEVMSNMVSENMLCAGILGRDQACEDSGSGPVASFHGTWFLVGLVSMGEG 383  
Db 343 PVDNNSCKLSSFFITTMFCAGIDTKQEDACQSDSGSPHVTFRKDTYFTVGLVSMGEG 402  
Qy 384 CGLLHNYGVYTKVSRYLDMHIGHIRDKEAPQ-KSNAP 419  
Db 403 CARKGKGIYTKVTAFLKMDRSMKTRGLPKAKSHAP 439

## RESULT 40

US-09-367-777-44  
Sequence 44, Application US/09367777  
Patent No. 6562598

GENERAL INFORMATION:

APPLICANT: Himmelbach, Michele  
Fleiderer, Michael  
Falkner, Falco-Guenther  
Bibl, Johann  
Dorner, Friedrich  
Schlokat, Uwe

TITLE OF INVENTION: Factor X Deletion Mutants  
and Analogues Thereof

NUMBER OF SEQUENCES: 145

CORRESPONDENCE ADDRESS:

ADDRESSER: Townsend and Townsend and Crew LLP  
STREET: Two Embarcadero Center, Eighth Floor  
CITY: San Francisco

STATE: CA

COUNTRY: USA

ZIP: 94111-3834

COMPUTER READABLE FORM:

MEDIUM TYPE: Diskette

COMPUTER: IBM Compatible

OPERATING SYSTEM: DOS

SOFTWARE: PatCSO for Windows Version 2.0

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/367,777

FILING DATE: 10-NO. 6562598-1999

CLASSIFICATION: <Unknown>

PRIOR APPLICATION DATA:

APPLICATION NUMBER: AT A 336/97

FILING DATE: 27-FEB-1997

APPLICATION NUMBER: NO PCT/AT98/00046

FILING DATE: 27-FEB-1998

ATTORNEY/AGENT INFORMATION:

NAME: Aussenhus, Scott L.  
REGISTRATION NUMBER: 42,271

REFERENCE/DOCKET NUMBER: 20695D-000900US  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 415-576-0200  
TELEFAX: 415-576-0300  
TELEX: <Unknown>  
INFORMATION FOR SEQ ID NO: 44:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 488 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
SEQUENCE DESCRIPTION: SEQ ID NO: 44:  
US-09-367-777-44

Query Match 34.6%; Score 803; DB 4; Length 488;  
Best Local Similarity 35.4%; Pred. No. 1.2e-60;  
Matches 162; Conservative 87; Mismatches 152; Indels 56; Gaps 9;  
QY 1 ANSFLELHSSLERECIEICDFEAKEIFQVNDTLAFWSKHVDGQCLVPLEHPCA 60  
DB 41 ANSFLEMKHGLERECMEETCSYEAREVEDEDKTFEPMKYDGGQGETSP----- 94  
QY 61 SLCCGHTCIDIGSFSCDGRSGMGRFCQREVSFLNCSLDNGGCTHYCLEVGMRCSC 120  
DB 95 --CQNGKCKDGLGEYTCLEBFGKNCCLFTRKL-CSLDNGDCDQFCHREQNSVVCSC 151  
QY 121 APGYKGLDGLLQCHPAVPCGAPWPKMEKRSKSLKXDEDED-----QYD 167  
DB 152 ARGVTLADNGKACIPTPGYPCGK--QTLERKRSVVAQATSSSGEAPDSITWKYDAAD 209  
QY 168 P-----RLIDGKMTRRGSPWQVVLDSKKKLACGAVLIHPS 204  
DB 210 PTENPDLDFNQTPQPRGDNMLTRIVGQCKDCECPQALLINEBFGCGTILSBF 269  
QY 205 WVLTAACMDESKKLIVRLGEYDLRMEKMLDLDIKEYFVFNYSKSTDNIALHLA 264  
DB 270 YILTAACLYQAKRFKRVGDRTQEBEGSAVHEVVIKNNRTKETYDFDIAVLRK 329  
QY 265 QPATLSQITVPCLPDSGLARELNQAGQET-LVTGMGYHSSREKAKRRTFVLANFIKI 323  
DB 330 TPTTFMNVAPACLPEDMAESTL--MTQKGIYSGRTHKRGQR-----LKMTEV 382  
QY 324 PVPFHNCESEVMSNMVSENLCAGLIGRQACBGDSGGPVYASFGTWFLVGLVSGEG 383  
DB 383 PYVDNSCKLSSSFLITQNMFCAGYDTQEDACQDSGGPHVTRFKDTYFTGIVSGES 442  
QY 384 CGLLHNYGYTVKSRVLDWIGHIRDEAPQ-KSWAP 419  
DB 443 CARKGKGYITKVTAFKMTIDSMKTRGLPAKSHAP 479

RESULT 41  
US-09-367-791A-27  
Sequence 27, Application US/09367791A  
Patent No. 6573071  
GENERAL INFORMATION:  
APPLICANT: Himmelspach, Michele  
Schlokal, Uwe  
Dorner, Friedrich  
Fisch, Andreas  
Eibl, Johann  
TITLE OF INVENTION: factor X Analogues with  
a Modified Protease Cleavage Site  
NUMBER OF SEQUENCES: 122  
CORRESPONDENCE ADDRESS:  
ADDRESS: Townsend and Townsend and Crew LLP  
STREET: Two Embarcadero Center, Eighth Floor  
CITY: San Francisco  
STATE: CA  
COUNTRY: USA  
ZIP: 94111-3834  
COMPUTER READABLE FORM:

MEDIUM TYPE: Diskette  
COMPUTER: IBM Compatible  
OPERATING SYSTEM: DOS  
SOFTWARE: FastSeq for Windows Version 2.0  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09367, 791A  
FILING DATE: 12-NO. 6573071-1999  
CLASSIFICATION: <Unknown>  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: AT A 335/97  
FILING DATE: 27-FEB-1997  
APPLICATION NUMBER: NO PCT/AT98/00045  
FILING DATE: 27-FEB-1998  
ATTORNEY/AGENT INFORMATION:  
NAME: Ausenius, Scott U.  
REGISTRATION NUMBER: 42,471  
REFERENCE/DOCKET NUMBER: 20695D-000700US  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (415) 576-0200  
TELEFAX: (415) 576-0300  
TELEX: <Unknown>  
INFORMATION FOR SEQ ID NO: 27:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 488 amino acids  
TYPE: amino acid  
STRANDEDNESS: <Unknown>  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
SEQUENCE DESCRIPTION: SEQ ID NO: 27:  
US-09-367-791A-27

Query Match 34.6%; Score 803; DB 4; Length 488;  
Best Local Similarity 35.4%; Pred. No. 1.2e-60;  
Matches 162; Conservative 87; Mismatches 152; Indels 56; Gaps 9;  
QY 1 ANSFLELHSSLERECIEICDFEAKEIFQVNDTLAFWSKHVDGQCLVPLEHPCA 60  
DB 41 ANSFLEMKHGLERECMEETCSYEAREVEDEDKTFEPMKYDGGQGETSP----- 94  
QY 61 SLCCGHTCIDIGSFSCDGRSGMGRFCQREVSFLNCSLDNGGCTHYCLEVGMRCSC 120  
DB 95 --CQNGKCKDGLGEYTCLEBFGKNCCLFTRKL-CSLDNGDCDQFCHREQNSVVCSC 151  
QY 121 APGYKGLDGLLQCHPAVPCGAPWPKMEKRSKSLKXDEDED-----QYD 167  
DB 152 ARGVTLADNGKACIPTPGYPCGK--QTLERKRSVVAQATSSSGEAPDSITWKYDAAD 209  
QY 168 P-----RLIDGKMTRRGSPWQVVLDSKKKLACGAVLIHPS 204  
DB 210 PTENPDLDFNQTPQPRGDNMLTRIVGQCKDCECPQALLINEBFGCGTILSBF 269  
QY 205 WVLTAACMDESKKLIVRLGEYDLRMEKMLDLDIKEYFVFNYSKSTDNIALHLA 264  
DB 270 YILTAACLYQAKRFKRVGDRTQEBEGSAVHEVVIKNNRTKETYDFDIAVLRK 329  
QY 265 QPATLSQITVPCLPDSGLARELNQAGQET-LVTGMGYHSSREKAKRRTFVLANFIKI 323  
DB 330 TPTTFMNVAPACLPEDMAESTL--MTQKGIYSGRTHKRGQR-----LKMTEV 382  
QY 324 PVPFHNCESEVMSNMVSENLCAGLIGRQACBGDSGGPVYASFGTWFLVGLVSGEG 383  
DB 383 PYVDNSCKLSSSFLITQNMFCAGYDTQEDACQDSGGPHVTRFKDTYFTGIVSGES 442  
QY 384 CGLLHNYGYTVKSRVLDWIGHIRDEAPQ-KSWAP 419  
DB 443 CARKGKGYITKVTAFKMTIDSMKTRGLPAKSHAP 479

RESULT 42  
US-08-295-411-5  
Sequence 5, Application US/08295411  
Patent No. 5673639  
GENERAL INFORMATION:

APPLICANT: Griffin, John H.  
APPLICANT: Westers, Rolf M.  
TITLE OF INVENTION: Serine Protease-Derived Polypeptides and  
TITLE OF INVENTION: Anti-Peptide Antibodies, Systems and Therapeutic Methods  
TITLE OF INVENTION: for Inhibiting Coagulation  
NUMBER OF SEQUENCES: 10  
CORRESPONDENCE ADDRESS:  
ADDRESS: Office of Patent Counsel, The Scripps  
ADDRESS: Research Institute  
STREET: 10666 No. 567639th Torrey Pines Road, TPC 8  
CITY: La Jolla  
STATE: CA  
COUNTRY: USA  
ZIP: 92037  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/295,411  
FILING DATE: 22-AUG-1994  
CLASSIFICATION: 530  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/793,989  
FILING DATE: 18-NOV-1991  
CLASSIFICATION: 530  
ATTORNEY/AGENT INFORMATION:  
NAME: Fitting, Thomas  
REGISTRATION NUMBER: 34,163  
REFERENCE/DOCKET NUMBER: TSRI263.0C1  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 619-554-2937  
TELEFAX: 619-554-6312  
INFORMATION FOR SEQ ID NO: 5:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 406 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHETICAL: NO  
ANTI-SENSE: NO  
FEATURE:  
NAME/KEY: Region  
LOCATION: 1..152  
OTHER INFORMATION: /note= "Factor VII Light Chain"  
FEATURE:  
NAME/KEY: Region  
LOCATION: 153..406  
OTHER INFORMATION: /note= "Factor VII Heavy Chain"  
US-08-295-411-5  
Query Match 33.7%, Score 783; DB 1; Length 406;  
Best Local Similarity 38.8%, Pred. No. 5, 1e-59;  
Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10.  
QY 1 ANSFLELHSSLEPCLETCDFEBAEIKQVNDTLAPWSKHVDGQCVLPLEHPCA 60  
DB 1 ANSFLELHSSLEPCLETCDFEBAEIKQVNDTLAPWSKHVDGQCVLPLEHPCA 60  
QY 61 SLCCGHTCTIDIGISFSCDCRSGMGRFCQ-REVSFLNGLDNGCTHYCLEEVGR-C 118  
DB 53 SPQNGSGCKOLOSICFCLPAFGRNCEHKKDDQILCVNENGCEQYCSHGTGKSGC 112  
QY 119 SCAPGYKLDLLQCHPAVFPQGRPMKMKKSHUKDTEQDQVDVRLIDGKMPR 178  
DB 113 RCHEGYSLADGVSCTPVEYPCGK-IPLEKNA-----SKQRIYGVKVPCK 161  
QY 179 GDSPMQVYLLSKSKKLAACGAVLIHSVYTLAHCWDSK--KLIVLGYDLRWEKWE 235  
DB 162 GBCPMQVLLVNGAQI-CGGTLINITWVSAHCFKIKMWNMLIAYIGHDSEHDGE 220  
QY 236 LDLDIKEVFVHPNYSKSTNDIALLHLAQATISQITVPLCPDSGLARELNQAGET 295

DB 221 QSRRAQYIIPSTVYGGTINDIALMLHQPVYLTIDHVPICLPERTFSEKTLAV-RFS 279  
QY 296 IYTGHHSSREKREKARNTFLNFIKIPVPHNCEVM-----SNVSEMLCAGILG 350  
DB 280 LVSGQGLDRGATA-----LELNVLVPRMTQDCLQSKKVDSPNITETMFCAGSD 334  
QY 351 DQDQACGDSGGPMVASFHGTWFLVGVSMGSCGLINNYVYTKSRYLMDIHGHIDK 410  
DB 335 GSKDSKDSGGPHATHRTGTWLTGIVSWGQCATVGHFGVYTRVSQYIEMLOKLMRSE 394  
QY 411 EAP 413  
DB 395 PRP 397

RESULT 43  
US-08-955-471-5  
Sequence 5, Application US/08955471  
Patent No. 5968751  
GENERAL INFORMATION:  
APPLICANT: Griffin, John H.  
APPLICANT: Westers, Rolf M.  
TITLE OF INVENTION: Serine Protease-Derived Polypeptides and  
TITLE OF INVENTION: Anti-Peptide Antibodies, Systems and Therapeutic Methods  
TITLE OF INVENTION: for Inhibiting Coagulation  
NUMBER OF SEQUENCES: 10  
CORRESPONDENCE ADDRESS:  
ADDRESS: Office of Patent Counsel, The Scripps  
ADDRESS: Research Institute  
STREET: 10666 No. 5968751th Torrey Pines Road, TPC 8  
CITY: La Jolla  
STATE: CA  
COUNTRY: USA  
ZIP: 92037  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/955,471  
FILING DATE:  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/295,411  
FILING DATE:  
CLASSIFICATION:  
ATTORNEY/AGENT INFORMATION:  
NAME: Fitting, Thomas  
REGISTRATION NUMBER: 34,163  
REFERENCE/DOCKET NUMBER: TSRI263.0C1  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 619-554-2937  
TELEFAX: 619-554-6312  
INFORMATION FOR SEQ ID NO: 5:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 406 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHETICAL: NO  
ANTI-SENSE: NO  
FEATURE:  
NAME/KEY: Region  
LOCATION: 1..152  
OTHER INFORMATION: /note= "Factor VII Light Chain"  
FEATURE:  
NAME/KEY: Region  
LOCATION: 153..406  
OTHER INFORMATION: /note= "Factor VII Heavy Chain"  
US-08-955-471-5

Query Match 33.7%; Score 783; DB 2; Length 406;  
 Best Local Similarity 38.8%; Pred. No. 5, 1e-59;  
 Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;

QY 1 ANSFLEELHSSLEKECEIEICDPEEAKEIFQNVDDTLAFWSKRVGDQCLVPLEHPCA 60  
 1 ANAFLEELRPSLEKECEKEQCFEAREIFPDARTKLFWISYSDGQC-----AS 52  
 DB 61 SLCCGHTCIDIGSFSCDGRSGMEGRFCQ-REVSFLNCSLDNGGCTHYCLEYGMRR-C 118  
 53 SPQNGSGCKDQLOSIFCLPAFEGRNCEETHKDOLICVNEENGCEQYCSDHGTGRSC 112  
 QY 119 SCAPGYKLGDDLLQCHPAVKEPCGRPMKMEKKSHLKRTDQEDQVDPRLIDGMKTR 178  
 113 RCHEGYSLADGVSTPVEYPCCK-IPILEKRNA-----SKQGRIVGKCYCK 161  
 DB 179 GDSFWQVLLDSKKKLAGAVLIHPSMVLTAACMDESK--KLVLRLGEYDLRRMEKE 235  
 162 GECPMQVLLVNGAQL-CGGTLINTIWWVSAHCFDKIKWRNLIAVLGEHDLSEHDGE 220  
 QY 236 LDDIKVEVPHNYSKSTTNDIALHLAOPATISQTIYICLPDSGLAERLNOAGET 295  
 221 QSRRAQVILIPSTYVPGTTHDIALRLHQPVLLDHPVPLCLPRTFSEKTLAFV-RFS 279  
 DB 296 LVTGWGYSREKEKRNRTFVINFIKIPVPHNECEVW-----SNVSENMUCAGILG 350  
 280 LVSGWGLLDRTGATN-----LELMTLVNVRILMTQDCLQGRKXGSDPNTIYMCAGYSD 334  
 QY 351 DRDACEGSDGSGPMVASFHGTWFLVGLVSWGEGCGLLHNYGVTTKVSRYLDWIHGHTRDK 410  
 335 GSKDSCGSDGSGPMVATHRGTYWLTGIVSWGCGCATVGHGYTVRSQYIEMLOKLMRSE 394  
 DB 411 EAP 413  
 395 PRP 397

# RESULT 44

PCT-US92-10242-5  
 Sequence 5, Application PC/TUS9210242

GENERAL INFORMATION:  
 APPLICANT: Griflin, John H.  
 TITLE OF INVENTION: Serine Protease-Derived Polypeptides and  
 TITLE OF INVENTION: Anti-Peptide Antibodies, Systems and Therapeutic Methods  
 TITLE OF INVENTION: for Inhibiting Coagulation  
 NUMBER OF SEQUENCES: 10  
 CORRESPONDENCE ADDRESS:  
 ADDRESSEE: Office of Patent Counsel, The Scripps  
 ADDRESSEE: Research Institute  
 STREET: 10666 North Torrey Pines Road, TPC 8  
 CITY: La Jolla  
 STATE: CA  
 COUNTRY: USA  
 ZIP: 92037

COMPUTER READABLE FORM:  
 MEDIUM TYPE: Floppy disk  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: Patent in Release #1.0, Version #1.25  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: PCT/US92/10242  
 FILING DATE: 19921118  
 CLASSIFICATION:  
 PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: US 07/793,989  
 FILING DATE: 18-NOV-1991

ATTORNEY/AGENT INFORMATION:  
 NAME: Fitting, Thomas  
 REGISTRATION NUMBER: 34,163  
 REFERENCE/DOCKET NUMBER: SCOR0472P  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: 619-554-2937

TELEFAX: 619-554-6312  
 INFORMATION FOR SEQ. ID NO.: 5:  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 406 amino acids  
 TYPE: AMINO ACID  
 TOPOLOGY: linear  
 MOLECULE TYPE: protein  
 HYPOTHEICAL: NO  
 ANTI-SENSE: NO  
 FEATURE:  
 NAME/KEY: Region  
 LOCATION: 1..152  
 OTHER INFORMATION: /note= "Factor VII light Chain"  
 NAME/KEY: Region  
 LOCATION: 153..406  
 OTHER INFORMATION: /note= "Factor VII Heavy Chain"  
 PCT-US92-10242-5

Query Match 33.7%; Score 783; DB 5; Length 406;  
 Best Local Similarity 38.8%; Pred. No. 5, 1e-59;  
 Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;

QY 1 ANSFLEELHSSLEKECEIEICDPEEAKEIFQNVDDTLAFWSKRVGDQCLVPLEHPCA 60  
 1 ANAFLEELRPSLEKECEKEQCFEAREIFPDARTKLFWISYSDGQC-----AS 52  
 DB 61 SLCCGHTCIDIGSFSCDGRSGMEGRFCQ-REVSFLNCSLDNGGCTHYCLEYGMRR-C 118  
 53 SPQNGSGCKDQLOSIFCLPAFEGRNCEETHKDOLICVNEENGCEQYCSDHGTGRSC 112  
 QY 119 SCAPGYKLGDDLLQCHPAVKEPCGRPMKMEKKSHLKRTDQEDQVDPRLIDGMKTR 178  
 113 RCHEGYSLADGVSTPVEYPCCK-IPILEKRNA-----SKQGRIVGKCYCK 161  
 DB 179 GDSFWQVLLDSKKKLAGAVLIHPSMVLTAACMDESK--KLVLRLGEYDLRRMEKE 235  
 162 GECPMQVLLVNGAQL-CGGTLINTIWWVSAHCFDKIKWRNLIAVLGEHDLSEHDGE 220  
 QY 236 LDDIKVEVPHNYSKSTTNDIALHLAOPATISQTIYICLPDSGLAERLNOAGET 295  
 221 QSRRAQVILIPSTYVPGTTHDIALRLHQPVLLDHPVPLCLPRTFSEKTLAFV-RFS 279  
 DB 296 LVTGWGYSREKEKRNRTFVINFIKIPVPHNECEVW-----SNVSENMUCAGILG 350  
 280 LVSGWGLLDRTGATN-----LELMTLVNVRILMTQDCLQGRKXGSDPNTIYMCAGYSD 334  
 QY 351 DRDACEGSDGSGPMVASFHGTWFLVGLVSWGEGCGLLHNYGVTTKVSRYLDWIHGHTRDK 410  
 335 GSKDSCGSDGSGPMVATHRGTYWLTGIVSWGCGCATVGHGYTVRSQYIEMLOKLMRSE 394  
 DB 411 EAP 413  
 395 PRP 397

# RESULT 45

US-08-475-845-2  
 Sequence 2, Application US/08475845

GENERAL INFORMATION:  
 APPLICANT: Berkner, Kathleen L.  
 APPLICANT: Petersen, Lars C.  
 APPLICANT: Hart, Charles E.  
 APPLICANT: Hedner, Ulla  
 TITLE OF INVENTION: Modified Factor VII  
 NUMBER OF SEQUENCES: 4  
 CORRESPONDENCE ADDRESS:  
 ADDRESSEE: Townsend and Townsend Kourie and Crew  
 STREET: One Market Plaza, Stewart Street Tower  
 CITY: San Francisco  
 STATE: CA

```

/ COUNTRY: U.S.A.
/ ZIP: 94105-1492
/ COMPUTER READABLE FORM:
/ MEDIUM TYPE: Floppy disk
/ OPERATING SYSTEM: IBM PC compatible
/ SOFTWARE: Patentin Release #1.24
/ CURRENT APPLICATION DATA:
/ APPLICATION NUMBER: US/08/475,845
/ FILING DATE: 07-JUN-1995
/ CLASSIFICATION: 435
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: 08/327,690
/ FILING DATE: 24-OCT-1994
/ CLASSIFICATION: 435
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: 08/065,725
/ FILING DATE: 21-MAY-1993
/ CLASSIFICATION: 435
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: 07/662,920
/ FILING DATE: 28-FEB-1991
/ CLASSIFICATION: 435
/ ATTORNEY/AGENT INFORMATION:
/ NAME: Parmelee, Steven W.
/ REGISTRATION NUMBER: 31,990
/ REFERENCE/DOCKET NUMBER: 13952-8-4
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: 206-467-9600
/ TELEFAX: 415-543-5043
/ INFORMATION FOR SEQ ID NO: 2:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 444 amino acids
/ TYPE: amino acid
/ TOPOLOGY: linear
/ MOLECULE TYPE: protein
/ US-08-475-845-2

Query Match      33.7%; Score 783; DB 1; Length 444;
Best Local Similarity 38.8%; Pred. No. 5,66-59;
Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;

QY 1 ANSFEEILRHSSLEKCEIEICDPEBAKEIFQNVDTLAFMSKAVDGDQCLVPLBHPCA 60
DB 39 ANAFEEILRPSGLERCKEHCQSFEEAREIFKDAERTKLFWISYSDGQC-----AS 90
QY 61 SLCGHTGCTDIGSGSFCDCRSQWEGRFQ-REVSLFNSLDNGCTHYCLEEVGMR-C 118
DB 91 SPQNGSSCKDQLOSTYICFLPAFEGRNCEHDKDQLICVNEGCGEQYCSDHGTGRSC 150
QY 119 SCAPGYKLGDDLLQCHPAVFPQGRPWKMEKRSHTKXDTEDQDQVDPRLIDGMTRR 178
DB 151 RHEGYSILADGVSCTPVEYPCGK-IPLEKRNA-----SKQGRIVGKVCPRK 199
QY 179 GDSPEQVVLDSKKKLAAGAVLIHPSWVLTAAHCDSEK---KLIVRLGEYDLRWEKME 235
DB 200 GECFQWVILLVNGAQL-CGGTLINTIIVWSAAHCFDKIKWNRLLAVLIGHDLSEHDGE 258
QY 236 LLDLKEVYFHPVNSSTTDNDIALHLAOPATLSOTIPICLPDSGLARELNDAGSET 295
DB 259 QSRKVAQYIISTYVGTTHNDIALRLHQPVVLTDAVVDLCPERFESRTLAV-RFS 317
QY 296 LVTGNGYHSSREKARNRTFVLFNFIKLPVPHNECSEVM-----SNMVSNNMLCAGILG 350
DB 318 LVSGWGLLDLPGATA-----LELWLVNVPRLMTQDCLQOSRKVDSPNITREVMFCAGYSD 372
QY 351 DRQDACGDSGSGPMWMSFHGTWPLVLGVSGCECGSLHNYGYTKVRSRYLDYTHGHIDK 410
DB 373 GSKDCCKGDSGSPHATHRGVWYLVGLVSGGCAVGHGFVYTRVSQYIEMLOKLMSSE 432
QY 411 EAP 413
DB 433 PRP 435
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RESULT 46
US-08-327-690-2
/ Sequence 2, Application US/08327690
/ Patent No. 5817788
/ GENERAL INFORMATION:
/ APPLICANT: Berkner, Kathleen L.
/ APPLICANT: Petersen, Lars C.
/ APPLICANT: Hart, Charles E.
/ APPLICANT: Hechter, Ulla
/ APPLICANT: Bregengaard, Claus
/ TITLE OF INVENTION: Modified Factor VII
/ NUMBER OF SEQUENCES: 4
/ CORRESPONDENCE ADDRESS:
/ ADDRESSEE: Townsend and Townsend Kourie and Crew
/ STREET: One Market Plaza, Steuart Street Tower
/ CITY: San Francisco
/ STATE: CA
/ COUNTRY: U.S.A.
/ ZIP: 94105-1492
/ COMPUTER READABLE FORM:
/ MEDIUM TYPE: Floppy disk
/ OPERATING SYSTEM: IBM PC compatible
/ SOFTWARE: Patentin Release #1.24
/ CURRENT APPLICATION DATA:
/ APPLICATION NUMBER: US/08/327,690
/ FILING DATE: 24-OCT-1994
/ CLASSIFICATION: 435
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: 08/065,725
/ FILING DATE: 21-MAY-1993
/ CLASSIFICATION: 435
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: 07/662,920
/ FILING DATE: 28-FEB-1991
/ CLASSIFICATION: 435
/ ATTORNEY/AGENT INFORMATION:
/ NAME: Parmelee, Steven W.
/ REGISTRATION NUMBER: 31,990
/ REFERENCE/DOCKET NUMBER: 13952-8-3
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: 206-467-9600
/ TELEFAX: 415-543-5043
/ INFORMATION FOR SEQ ID NO: 2:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 444 amino acids
/ TYPE: amino acid
/ TOPOLOGY: linear
/ MOLECULE TYPE: protein
/ US-08-327-690-2

Query Match      33.7%; Score 783; DB 2; Length 444;
Best Local Similarity 38.8%; Pred. No. 5,66-59;
Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;

QY 1 ANSFEEILRHSSLEKCEIEICDPEBAKEIFQNVDTLAFMSKAVDGDQCLVPLBHPCA 60
DB 39 ANAFEEILRPSGLERCKEHCQSFEEAREIFKDAERTKLFWISYSDGQC-----AS 90
QY 61 SLCGHTGCTDIGSGSFCDCRSQWEGRFQ-REVSLFNSLDNGCTHYCLEEVGMR-C 118
DB 91 SPQNGSSCKDQLOSTYICFLPAFEGRNCEHDKDQLICVNEGCGEQYCSDHGTGRSC 150
QY 119 SCAPGYKLGDDLLQCHPAVFPQGRPWKMEKRSHTKXDTEDQDQVDPRLIDGMTRR 178
DB 151 RHEGYSILADGVSCTPVEYPCGK-IPLEKRNA-----SKQGRIVGKVCPRK 199
QY 179 GDSPEQVVLDSKKKLAAGAVLIHPSWVLTAAHCDSEK---KLIVRLGEYDLRWEKME 235
DB 200 GECFQWVILLVNGAQL-CGGTLINTIIVWSAAHCFDKIKWNRLLAVLIGHDLSEHDGE 258
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1 CLASSIFICATION: 514
2 PRIOR APPLICATION DATA:
3 APPLICATION NUMBER: 08/475,845
4 FILING DATE: 07-JUN-1995
5 APPLICATION NUMBER: 08/327,690
6 FILING DATE:
7 PRIOR APPLICATION DATA:
8 APPLICATION NUMBER: 08/065,725
9 FILING DATE: 21-MAY-1993
10 CLASSIFICATION: 514
11 PRIOR APPLICATION DATA:
12 APPLICATION NUMBER: 07/662,920
13 FILING DATE: 28-FEB-1991
14 CLASSIFICATION: 514
15 ATTORNEY/AGENT INFORMATION:
16 NAME: Parmelee, Steven W.
17 REGISTRATION NUMBER: 31,990
18 REFERENCE/DOCKET NUMBER: 13952-8-4
19 TELECOMMUNICATION INFORMATION:
20 TELEPHONE: 206-467-9600
21 TELEFAX: 415-543-5043
22 INFORMATION FOR SEQ ID NO: 2:
23 SEQUENCE CHARACTERISTICS:
24 LENGTH: 444 amino acids
25 TYPE: amino acid
26 TOPOLOGY: linear
27 MOLECULE TYPE: protein
28 JS-08-660-289-2

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RESULT 48  
US-08-537-807-2  
Sequence 2, Application US/08537807  
Patent No. 5861374  
GENERAL INFORMATION:  
APPLICANT:  
TITLE OF INVENTION: Modified Factor VII  
NUMBER OF SEQUENCES: 4  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/537,807  
FILING DATE:  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: PCT/US94/05779  
FILING DATE: 23-MAY-1994  
APPLICATION NUMBER: US 08/065,725  
FILING DATE: 21-MAY-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/662,920  
FILING DATE: 28-FEB-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Parmelee, Steven W.  
REGISTRATION NUMBER: 31,990  
REFERENCE/DOCKET NUMBER: 13952-8-1PC  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 206-467-9600  
TELEFAX: 415-543-5043  
INFORMATION FOR SEQ. ID NO.: 2:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 444 amino acids  
TYPE: amino acid

```

;
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-537-807-2

Query Match      33.7%; Score 783; DB 2; Length 444;
Best Local Similarity 38.8%; Pred. No. 5,6e-59;
Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;

QY 1 ANSFLEELRHSLERECIEIEICDFEAKEIFONVDTLAFWSKHVDGQCLVPLEHPCA 60
DB 39 ANAFLEELRFGSLERECIEECQCSFEARLIFKDAERTKLFMTISYSDQC-----AS 90
QY 61 SLCCGHTCTIDIGSPSCDCSGMEGRFCQ-REVSFLNCSLDNGGCTHYCLEBEVGR-C 118
DB 91 SPQNGSCCKDQLOSYICFCLPAFEGRNCEHDKDQCLVFNENGGCEQYCSDHGTGKSC 150
QY 119 SCAPGYKGLDQLQCHPAVPCGRPKMKMEKKRSHLKRDTEDQEDVDPRLLIDGKMTTR 178
DB 151 RCHEGYSLADGVSCTPTVEYPCGK-IPLEKRN-----SKPGRIYGVKVCPEK 199
QY 179 GDSFWQVLLDSKKLACGAVLIHPSVLTAAHCWDESK---KLVRLGEYDLRMEKME 235
DB 200 GECFWQVLLVNGAQL-CGGTLINTIWWVSAHCEKIKMNRNLIVLGEHLSHDGDE 258
QY 226 LDDIKFVFNHYSKSTTNDIALHLAQPATLSQITVPCLPDGLARELNQAGQET 295
DB 239 QSRRAQVLIIPSTYVGTNHDIALRLHQPVVLTIDHVPCLPPTFSEKTLAFV-RFS 317
QY 236 LVTGWYHSSREKEAKRRTFVNLFIKIPVPHNCSFW-----SNMSENMLCAGTIG 350
DB 318 LVSGWGLDRGATL-----LELWLVNVPRLMTQDCLQSKRVKDSNITFMCAGYS 372
QY 351 DRQACBGDSGGPMVASFHGTWFLVGVSGSCGLLHNYGVYTKSRYLIMHGHIRDX 410
DB 373 GSKDSCKDSGGPHATHRGTWYLTGVSGGCAVGHGVTTRVQYIEMLOKLMRSE 432
QY 411 EAP 413
DB 433 PRP 435

RESULT 49
US-08-871-003-2
; Sequence 2, Application US/08671003
; Patent No. 5997864
; GENERAL INFORMATION:
; APPLICANT: Hart, Charles E.
; APPLICANT: Petersen, Lars C.
; APPLICANT: Hedner, Ulla
; APPLICANT: Rasmussen, Mirella E.
; TITLE OF INVENTION: Modified Factor VII
; NUMBER OF SEQUENCES: 4
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Zymogenetics, Inc.
; STREET: 1201 Eastlake Avenue East
; CITY: Seattle
; STATE: WA
; COUNTRY: USA
; ZIP: 98102
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: IBM PC compatible
; SOFTWARE: Patent in Release #1.24
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/871,003
; FILING DATE:
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER:
; FILING DATE:
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:

```

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;
; NAME: Sawislak, Deborah A
; REGISTRATION NUMBER: 37,438
; REFERENCE/DOCKET NUMBER: 90-07C7
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 444 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-871-003-2

Query Match      33.7%; Score 783; DB 2; Length 444;
Best Local Similarity 38.8%; Pred. No. 5,6e-59;
Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;

QY 1 ANSFLEELRHSLERECIEIEICDFEAKEIFONVDTLAFWSKHVDGQCLVPLEHPCA 60
DB 39 ANAFLEELRFGSLERECIEECQCSFEARLIFKDAERTKLFMTISYSDQC-----AS 90
QY 61 SLCCGHTCTIDIGSPSCDCSGMEGRFCQ-REVSFLNCSLDNGGCTHYCLEBEVGR-C 118
DB 91 SPQNGSCCKDQLOSYICFCLPAFEGRNCEHDKDQCLVFNENGGCEQYCSDHGTGKSC 150
QY 119 SCAPGYKGLDQLQCHPAVPCGRPKMKMEKKRSHLKRDTEDQEDVDPRLLIDGKMTTR 178
DB 151 RCHEGYSLADGVSCTPTVEYPCGK-IPLEKRN-----SKPGRIYGVKVCPEK 199
QY 179 GDSFWQVLLDSKKLACGAVLIHPSVLTAAHCWDESK---KLVRLGEYDLRMEKME 235
DB 200 GECFWQVLLVNGAQL-CGGTLINTIWWVSAHCEKIKMNRNLIVLGEHLSHDGDE 258
QY 226 LDDIKFVFNHYSKSTTNDIALHLAQPATLSQITVPCLPDGLARELNQAGQET 295
DB 239 QSRRAQVLIIPSTYVGTNHDIALRLHQPVVLTIDHVPCLPPTFSEKTLAFV-RFS 317
QY 236 LVTGWYHSSREKEAKRRTFVNLFIKIPVPHNCSFW-----SNMSENMLCAGTIG 350
DB 318 LVSGWGLDRGATL-----LELWLVNVPRLMTQDCLQSKRVKDSNITFMCAGYS 372
QY 351 DRQACBGDSGGPMVASFHGTWFLVGVSGSCGLLHNYGVYTKSRYLIMHGHIRDX 410
DB 373 GSKDSCKDSGGPHATHRGTWYLTGVSGGCAVGHGVTTRVQYIEMLOKLMRSE 432
QY 411 EAP 413
DB 433 PRP 435

RESULT 50
US-08-464-233-2
; Sequence 2, Application US/08464233
; Patent No. 6039944
; GENERAL INFORMATION:
; APPLICANT: Berkner, Kathleen L.
; APPLICANT: Petersen, Lars C.
; APPLICANT: Hart, Charles E.
; APPLICANT: Hedner, Ulla
; APPLICANT: Bregengaard, Claus
; TITLE OF INVENTION: Modified Factor VII
; NUMBER OF SEQUENCES: 4
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Townsend and Townsend Kourie and Crew
; STREET: One Market Plaza, Steuart Street Tower
; CITY: San Francisco
; STATE: CA
; COUNTRY: U.S.A.
; ZIP: 94105-1492
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: IBM PC compatible
; SOFTWARE: Patent in Release #1.24
; CURRENT APPLICATION DATA:

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APPLICATION NUMBER: US/08/464,233  
FILING DATE:  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US/08/327,690  
FILING DATE: 24-OCT-1994  
APPLICATION NUMBER: 08/065,725  
FILING DATE: 21-MAY-1993  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 07/662,920  
FILING DATE: 28-FEB-1991  
CLASSIFICATION:  
ATTORNEY/AGENT INFORMATION:  
NAME: Parmelee, Steven W.  
REGISTRATION NUMBER: 31,990  
REFERENCE/DOCKET NUMBER: 13952-8-3  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 206-467-9600  
TELEFAX: 415-543-5043  
INFORMATION FOR SEQ ID NO: 2:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 444 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-464-233-2

Query Match 33.7%; Score 783; DB 3; Length 444;

Best Local Similarity 38.8%; Pred. No. 5,66-59;

Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;

QY 1 ANSFLELRHSLEBCEIEICDFEAKRIFQNVDDTLAFMSKXNDGQCVLPLEHPCA 60  
DB 39 ANAFLELRPSLEBCEIEICDFEAKRIFQNVDDTLAFMSKXNDGQCVLPLEHPCA 90  
QY 61 SLCCGHTCIDIGISFSCDRCSGMEGRFCQ-REVSFLNCSLDNGGCTHYCLEEYGMW-R-C 118  
DB 91 SPONGSCCKDQLOSTYICFLPAFEGNCEHTKDDQLICVNEGSGEYCSDHGTGRKSC 150  
QY 119 SCAPGYKLDLLOCHPAVKEPCGRPMKMEKRSKLRTEDEQDQVDPRLIDGKMTTR 178  
DB 151 RCHEGYSLADGVSCTPVEYPCGK-IPLEKRNA-----SKPGRIVGKVCPRK 199  
QY 179 GDSFWQVLLDSSKKLACGAVLHPSPVLTAAHCDMSK---KLVRLEGYDLRRMEKWE 235  
DB 200 GECPWQVLLLVNGAQL-CGGTLINTIIVWSAAHCEFDKIKMRNLIVLGEHDSHDGDE 258  
QY 236 LDDDIKEVFNHNPVSKSTTNDIALHLAQPATLSQTTVPICLPDSGLAEREINQAQGET 295  
DB 259 QSRVAVQVLIIPSTYVPGTTNHDIALRLHQPVLTLDHVPCLIPRTFSEKTLAFV-RFS 317  
QY 296 LVTGNGYHSSREKKEKRNRTFVLFKIPVPHNECEVW-----SNVVSFNMICGILG 350  
DB 318 LVSGWQGLDRKATL-----LELMVLTNVPRLTQDCLQSKRKVSGSPITLYMFCAGYSD 372  
QY 351 DRDACEGDSGSGFVWASPHGTWFLVGLVSWERGGCLLHNVGYVYKVSRYLDMIGHIRPK 410  
DB 373 GSKDSCKDGSGGPHHTHYRGTWLTLGIVSWGCGATVGHGYTTSQYIMLQKMRSE 432  
QY 411 EAP 413  
DB 433 PRP 435

RESULT 51

US-09-189-607-2  
Sequence 2, Application US/09189607

Patent No. 6168789

GENERAL INFORMATION:

APPLICANT: Berkner, Kathleen L.

APPLICANT: Petersen, Lars C.

APPLICANT: Hart, Charles E.

APPLICANT: Hedner, Ulla  
APPLICANT: Bregengaard, Claus  
TITLE OF INVENTION: Modified Factor VII  
NUMBER OF SEQUENCES: 4  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Townsend and Townsend Kourile and Crew  
STREET: One Market Plaza, Stewart Street Tower  
CITY: San Francisco  
STATE: CA  
COUNTRY: U.S.A.  
ZIP: 94105-1492  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
OPERATING SYSTEM: IBM PC compatible  
SOFTWARE: PatentIn Release #1.24  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/189,607  
FILING DATE:  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/660,289  
FILING DATE:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/327,690  
FILING DATE:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/065,725  
FILING DATE: 21-MAY-1993  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 07/662,920  
FILING DATE: 28-FEB-1991  
CLASSIFICATION:  
ATTORNEY/AGENT INFORMATION:  
NAME: Parmelee, Steven W.  
REGISTRATION NUMBER: 31,990  
REFERENCE/DOCKET NUMBER: 13952-8-4  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 206-467-9600  
TELEFAX: 415-543-5043  
INFORMATION FOR SEQ ID NO: 2:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 444 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-09-189-607-2

Query Match 33.7%; Score 783; DB 3; Length 444;

Best Local Similarity 38.8%; Pred. No. 5,66-59;

Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;

QY 1 ANSFLELRHSLEBCEIEICDFEAKRIFQNVDDTLAFMSKXNDGQCVLPLEHPCA 60  
DB 39 ANAFLELRPSLEBCEIEICDFEAKRIFQNVDDTLAFMSKXNDGQCVLPLEHPCA 90  
QY 61 SLCCGHTCIDIGISFSCDRCSGMEGRFCQ-REVSFLNCSLDNGGCTHYCLEEYGMW-R-C 118  
DB 91 SPONGSCCKDQLOSTYICFLPAFEGNCEHTKDDQLICVNEGSGEYCSDHGTGRKSC 150  
QY 119 SCAPGYKLDLLOCHPAVKEPCGRPMKMEKRSKLRTEDEQDQVDPRLIDGKMTTR 178  
DB 151 RCHEGYSLADGVSCTPVEYPCGK-IPLEKRNA-----SKPGRIVGKVCPRK 199  
QY 179 GDSFWQVLLDSSKKLACGAVLHPSPVLTAAHCDMSK---KLVRLEGYDLRRMEKWE 235  
DB 200 GECPWQVLLLVNGAQL-CGGTLINTIIVWSAAHCEFDKIKMRNLIVLGEHDSHDGDE 258  
QY 236 LDDDIKEVFNHNPVSKSTTNDIALHLAQPATLSQTTVPICLPDSGLAEREINQAQGET 295  
DB 259 QSRVAVQVLIIPSTYVPGTTNHDIALRLHQPVLTLDHVPCLIPRTFSEKTLAFV-RFS 317





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LENGTH: 466 amino acids
TYR: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-321-777-4

Query Match      33.7%; Score 703; DB 1; Length 466;
Best Local Similarity 38.8%; Pred. No. 6e-59;
Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;

QY 1 ANSFLRELHSHLEBCEIEICDFEAEKIRIOWNDITLAFMSKHYVQDQCVLPLEHPCA 60
   |||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 61 ANAFLEHLEPGLSEBCEKESQCSFEAEKIRKDEKFKLFWISYSDQC-----AS 112

QY 61 SLCCGHGTICIDIGISGFCDSRSGMEGRFCO-REVSFLNCSLDNGGCTHYCLEBYGWR-C 118
   |||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||
Db 113 SPQNGSGSKDQLQSYICFLCPAFEGRNCEHKKDDQICVNEKGGCQYCSDHRTGTRSC 172

QY 119 SCAPGKTLQDILQCHPAVYKPCGGRWKRMEKKSHLKRDTEQEDQYDPLIDGKTRR 178
   |||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||
Db 173 RCHGYSGLIADSVSCPTPEVYPCGK-IPLLEKRNA-----SKQGGIVGKVCPE 221

QY 179 GDSWQGVLLDSSKKLACGAVLHPSPWITLAHCMDESK---KLIVRGLGEYDLRRMEKE 235
   |||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||
Db 222 GECPQVILLVNGAQL-CGGTLINITWVSAHCPDQIKKMRRLIATGEEDLSHNDGDE 280

QY 236 LDDIIVKVEVHNPYSKSTINDIALHLAOPATISQIVPICLPSGLAEELNQAQGET 295
   |||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||
Db 281 QSRVAVQVILIPSTYVPGTTHMDIALRLHQPVYLTIDHVPDLCPEPTSEBRLAFV-RFS 339

QY 296 LVYGMGHSSRKEKAKRRRTFVNLFIKIPVYVPHNCEVW-----SNVSENMICAGILG 350
   |||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||
Db 340 LVSGWQGLLDREGATL-----LELMVINVPRMLTQDCLQSRKVGDSPTIETMFCAGYSD 394

QY 351 DRDAPCGDGGGPMVASPHGTWFLVGLVWEGCGGLHNVGYVTKYSRLLDMIGHIRDK 410
   |||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||
Db 395 GSKDCKGDSGGPHATRTGRTWLTGLVSWGGCAIVGHGVTRVSQIETMLQKMRSE 454

QY 411 EAP 413
Db 455 PRP 457

RESULT 57
US-09-009-217-14
Sequence 14, Application US/09009217
Patent No. 6132729
GENERAL INFORMATION:
APPLICANT: Thorpe, Philip E.
APPLICANT: King, Steven W.
APPLICANT: Gao, Boning
TITLE OF INVENTION: COMBINED TISSUE FACTOR AND
TITLE OF INVENTION: CHEMOTHERAPEUTIC METHODS AND COMPOSITIONS FOR COAGULATION
NUMBER OF SEQUENCES: 27
CORRESPONDENCE ADDRESS:
ADDRESSEE: Arnold, White & Durkee
STREET: P.O. Box 4433
CITY: Houston
STATE: Texas
COUNTRY: USA
ZIP: 77210
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
APPLICATION NUMBER: US/09/009,217
FILING DATE: Concurrently Herewith
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/042,427

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/ FILING DATE: 27-MAR-1997
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: US 60/036,205
/ FILING DATE: 27-JAN-1997
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: US 60/035,920
/ FILING DATE: 22-JAN-1997
/ ATTORNEY/AGENT INFORMATION:
/ NAME: Hibler, David W.
/ REGISTRATION NUMBER: 41,071
/ REFERENCE/DOCKET NUMBER: UTSD:536
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: 512/418-3000
/ TELEFAX: 512/474-7577
/ INFORMATION FOR SEQ ID NO: 14:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 466 amino acids
/ TYPE: amino acid
/ STRANDEDNESS:
/ TOPOLOGY: linear
/ US-09-009-217-14

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Query Match 33.7%; Score 783; DB 3; Length 466;
Best Local Similarity 38.8%; Pred. No. 6e-59;
Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;

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QY 1 ANSFLBELRHSLEECIEICDPEBAKIFQNVDTLAFWSKHVDGQCLVPLEHPCA 60
DB 61 ANAFLELRHPSLSRECKEQCFEABERIKFMAISYDQC-----AS 112
QY 61 SLCCGHTCIDIGSFSCDCRSWEGRFQ-REVSFLNCSLDNGGCTHYCLEEVGMR-C 118
DB 113 SPQNGSGCKDQLOSICFLPAFEGNCEHKKDQICVNNGSCBQYCSDHGTGRSC 172
QY 119 SCAPGYLGGDILQCHPAVKFPCGRPWKMEKKSILKRDTEDEQVDPRLIDGKMTTR 178
DB 173 RCHGYSGLADGVSCTPVEYPCGK-IPILEKRNA-----SKPGRIYGVGYCPK 221
QY 179 GDSPMQVLLDSKKKAGAVLHPSWVLTAAHQMDESK---KLIVRLGEVDLRMEKME 235
DB 222 GECPMQVLLLVNGAQL-CGGLINTIWWVSAHCFDKIKWRMLIAVIGEHDLSEHGDE 280
QY 236 LDLDKEVFHNPYSKSTTNDIALHLAOPATLSQTIYVICLPDSGLAERLNOAGQT 295
DB 281 QSRRAQVITIPSTVPGTTNHDIALRLHQPVLTDHVPCLPPTPSERTLAFV-RFS 339
QY 236 LVTGWGHSRREKAKRRTFVNFIKIPVPHNECEVM-----SNWVENMLCAGILG 350
DB 340 LVSGWGLDRGATA-----LELMVINVPRMTQDCQSRKVDSPNITMYMFCAGYSD 394
QY 351 DRDAGCGDSGGPMVASPHGTWFLVGLVSWGCGGLLHNYGVYTKVSRYLDMIGHIRDK 410
DB 395 GSKJSCGSDSGGPHATHRGWTLGTISWGGCATVGHGVTYRVSQYILEMLQKMRSE 454
QY 411 EAP 413
DB 455 PRP 457

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RESULT 58
US-09-009-656-14
/ Sequence 14, Application US/09009656
/ Patent No. 6132730
/ GENERAL INFORMATION:
/ APPLICANT: Thorpe, Philip E.
/ APPLICANT: King, Steven W.
/ APPLICANT: Gao, Bening
/ TITLE OF INVENTION: COMBINED TISSUE FACTOR AND FACTOR VIIA
/ TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR COAGULATION AND TUMOR
/ NUMBER OF SEQUENCES: 27
/ CORRESPONDENCE ADDRESS:
/ ADDRESSEE: Arnold, White & Durkee

```

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/ STREET: P.O. Box 4433
/ CITY: Houston
/ STATE: Texas
/ COUNTRY: USA
/ ZIP: 77210
/ COMPUTER READABLE FORM:
/ MEDIUM TYPE: Floppy disk
/ OPERATING SYSTEM: IBM PC compatible
/ SOFTWARE: Patent in Release #1.0, Version #1.30
/ CURRENT APPLICATION DATA:
/ APPLICATION NUMBER: US/09/009,656
/ FILING DATE: Concurrently Herewith
/ CLASSIFICATION:
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: US 60/042,427
/ FILING DATE: 27-MAR-1997
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: US 60/036,205
/ FILING DATE: 27-JAN-1997
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: US 60/035,920
/ FILING DATE: 22-JAN-1997
/ ATTORNEY/AGENT INFORMATION:
/ NAME: Hibler, David W.
/ REGISTRATION NUMBER: 41,071
/ REFERENCE/DOCKET NUMBER: UTSD:537
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: 512/418-3000
/ TELEFAX: 512/474-7577
/ INFORMATION FOR SEQ ID NO: 14:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 466 amino acids
/ TYPE: amino acid
/ STRANDEDNESS:
/ TOPOLOGY: linear
/ US-09-009-656-14

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Query Match 33.7%; Score 783; DB 3; Length 466;
Best Local Similarity 38.8%; Pred. No. 6e-59;
Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;

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QY 1 ANSFLBELRHSLEECIEICDPEBAKIFQNVDTLAFWSKHVDGQCLVPLEHPCA 60
DB 61 ANAFLELRHPSLSRECKEQCFEABERIKFMAISYDQC-----AS 112
QY 61 SLCCGHTCIDIGSFSCDCRSWEGRFQ-REVSFLNCSLDNGGCTHYCLEEVGMR-C 118
DB 113 SPQNGSGCKDQLOSICFLPAFEGNCEHKKDQICVNNGSCBQYCSDHGTGRSC 172
QY 119 SCAPGYLGGDILQCHPAVKFPCGRPWKMEKKSILKRDTEDEQVDPRLIDGKMTTR 178
DB 173 RCHGYSGLADGVSCTPVEYPCGK-IPILEKRNA-----SKPGRIYGVGYCPK 221
QY 236 LDLDKEVFHNPYSKSTTNDIALHLAOPATLSQTIYVICLPDSGLAERLNOAGQT 295
DB 281 QSRRAQVITIPSTVPGTTNHDIALRLHQPVLTDHVPCLPPTPSERTLAFV-RFS 339
QY 236 LVTGWGHSRREKAKRRTFVNFIKIPVPHNECEVM-----SNWVENMLCAGILG 350
DB 340 LVSGWGLDRGATA-----LELMVINVPRMTQDCQSRKVDSPNITMYMFCAGYSD 394
QY 351 DRDAGCGDSGGPMVASPHGTWFLVGLVSWGCGGLLHNYGVYTKVSRYLDMIGHIRDK 410
DB 395 GSKJSCGSDSGGPHATHRGWTLGTISWGGCATVGHGVTYRVSQYILEMLQKMRSE 454
QY 411 EAP 413
DB 455 PRP 457

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RESULT 59  
PCT-US93-04493-4  
Sequence 4, Application PCT/TUS9304493  
GENERAL INFORMATION:  
APPLICANT: Morrissey, James H.  
APPLICANT: Comp, Philip C.  
TITLE OF INVENTION: Truncated Tissue Factor and FvIIa or  
TITLE OF INVENTION: FvIIa Activator for Blood Coagulation  
NUMBER OF SEQUENCES: 4  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Richards, Medlock & Andrews  
STREET: 1201 Elm Street, Suite 4500  
CITY: Dallas  
STATE: Texas  
COUNTRY: US  
ZIP: 75270-2197  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent in Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: PCT/US93/04493  
FILING DATE: 19930512  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/882202  
FILING DATE: 13-MAY-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/021615  
FILING DATE: 19-FEB-1993  
ATTORNEY/AGENT INFORMATION:  
NAME: Trujillo, Doreen Y.  
REGISTRATION NUMBER: 35,719  
REFERENCE/DOCKET NUMBER: OMRF B34290CPC/PCT  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 214-939-4500  
TELEFAX: 214-939-4600  
INFORMATION FOR SEQ ID NO: 4:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 466 amino acids  
TYPE: AMINO ACID  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
PCT-US93-04493-4

Query Match 33.7%; Score 783; DB 5; Length 466;  
Best Local Similarity 38.8%; Pred. No. 6e-59;  
Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;

QY 1 ANSFLERHSLSRECEIEIODEPEAKEIEQVNDTLAFMSKVNDDQIVLPLEHCA 60  
DB 61 ANAFLELRPSLEKCKEKEQCSFEAREIFKDAERTKLFWISYSDQC-----AS 112  
QY 61 SLCCGHTCIDIGISFSCDCRSWGEGFCQ-REVSFLNCSIDNGCTHYCLEVGWR-C 118  
DB 113 SPCQNGSGCKDQLOSTICFCCLPABEGNCETHDDQLICVNBGCGQYSHHTKSC 172  
QY 113 SCAPGYKLGDDLIQCHPAVKPCGPMKMKRKKRSHLRKDTBEDQDVDBRLIDSKMTR 178  
DB 173 RCHEGYSILADGVSCPTVEYPCGK-IPILEKNA-----SKPQGRIVGKVC PK 221  
QY 179 GSPMQVVLDSKKKACAGAVLHPSWVLTAAHCEMSK---KLTVLGRVYDLRMEKME 235  
DB 222 GECFQVLLVNLNQHQL-CGGTLINTVWSAHCFKIKMNRNLIAVLGSHDSHSDGDE 280  
QY 236 LDIDIKVYFVHNYSTNDNDIALHIAQPAATLSQTIPICLPDSGLARELNQAGQET 295  
DB 281 QSRVAQVYIIPSTYVGTNNHDIALLRLHQFVVLTQHVVPLCLPRTFSRTLAIV-RFS 339  
QY 296 LVTVGCHSSREKAKRNTFVNLIKIPVPRNECEVM-----SNVSENNLCAGILG 350

DB 340 LVSGWGLRLRGATL-----LEIMVNLVPELMTQDCLQSKRVSDSPNITEMPCAGYSD 394  
QY 351 DRDAGSGDSGGPMVASFHGTWFLVGLVSGSCGLHNYGVYTKVSRYLDMTHGHIDK 410  
DB 395 GSKDSCKSDSGPHATHRGWTGLTVSGQCATVGHFGVYTRVSQYLEWLOKLRSE 454  
QY 411 EAP 413  
DB 455 PRP 457

RESULT 60  
US-08-487-037-2  
Sequence 2, Application US/08487037  
Patent No. 5795863  
GENERAL INFORMATION:  
APPLICANT: Wolf, David L.  
TITLE OF INVENTION: RECOMBINANT AGENTS AFFECTING THROMBOSIS  
NUMBER OF SEQUENCES: 11  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: MORRISON & FOERSTER  
STREET: 2000 Pennsylvania Avenue, NW  
CITY: Washington  
STATE: DC  
COUNTRY: USA  
ZIP: 20006-1812  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent in Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/487,037  
FILING DATE: 07-JUN-1995  
CLASSIFICATION: 514  
ATTORNEY/AGENT INFORMATION:  
NAME: Adler, Reid G.  
REGISTRATION NUMBER: 30,988  
REFERENCE/DOCKET NUMBER: 2803-0002.02  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (202) 887-1500  
TELEFAX: (202) 887-0763  
TELEX: 90-4030  
INFORMATION FOR SEQ ID NO: 2:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 437 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: both  
FEATURE:  
NAME/KEY: Protein  
LOCATION: 1..139  
OTHER INFORMATION: /note= "Factor Xa-light Chain"  
FEATURE:  
NAME/KEY: Peptide  
LOCATION: -40..0  
OTHER INFORMATION: /note= "Pre-Pro leader sequence"  
FEATURE:  
NAME/KEY: Modified-site  
LOCATION: -17  
OTHER INFORMATION: /note= "Location of Intron A"  
FEATURE:  
NAME/KEY: Modified-site  
LOCATION: (3738)  
OTHER INFORMATION: /note= "Location of Intron B"  
FEATURE:  
NAME/KEY: Modified-site  
LOCATION: 46  
OTHER INFORMATION: /note= "Location of Intron C"  
FEATURE:  
NAME/KEY: Modified-site  
LOCATION: 63



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OTHER INFORMATION: /note= "An amino acid represented
OTHER INFORMATION: by the greek letter Beta"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 84
OTHER INFORMATION: /note= "Location of Intron D"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 128
OTHER INFORMATION: /note= "Location of Intron E"
FEATURE:
NAME/KEY: Modified-site
LOCATION: (158,159)
OTHER INFORMATION: /note= "Location of Intron F"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 198
OTHER INFORMATION: /note= "Location of Intron G"
FEATURE:
NAME/KEY: Disulfide-bond
LOCATION: group(17..22, 50..61, 55..70, 72..81, 89..100, 96
LOCATION: ..109, 111..124, 132..251, 150..155, 170..186,
LOCATION: 299..313, 324..352)
US-08-487-037-2
```

```
Query Match 32.3%; Score 749.5; DB 1; Length 437;
Best Local Similarity 35.6%; Pred. No. 4,1e-56;
Matches 150; Conservative 82; Mismatches 154; Indels 35; Gaps 8;
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QY 1 ANSFLEIRHSSLEKIEIEICDFEANEIFQVNDTLAFWSKHYDQGLVPLEHPCA 60
||| : : : : : : : : : : : : : : : : : : : : : : : : :
DB 41 ANSFLEIRHSSLEKIEIEICDFEANEIFQVNDTLAFWSKHYDQGLVPLEHPCA 60
||| : : : : : : : : : : : : : : : : : : : : : : : : :
QY 61 SLCCGTCIDIGISFSCDGRSGWRCQREYVFNGLDNGCTHCLSEYWGWRCSG 120
||| : : : : : : : : : : : : : : : : : : : : : : : : :
DB 95 --CQNGCKCKGLGEYTCCTCGEFGKNCCLFTPKL-CSLDNGDDQFCHEQNSVVCSC 151
||| : : : : : : : : : : : : : : : : : : : : : : : : :
QY 121 APGYKGLDILLQCHPAKFPQGRPMKREKRSKSLKEDDEQDQVDFRLIDSKMTRGD 180
||| : : : : : : : : : : : : : : : : : : : : : : : : :
DB 152 ARGYTLADNGKACIFTPGYPCGK--QTEFRKR-----RIVGQCKCKOE 194
||| : : : : : : : : : : : : : : : : : : : : : : : : :
QY 181 SPWQVLLDSKKKLCACAVLIHPSWVLTAAHOMDESKLIVLGEYDIRMEKMEIJDIT 240
||| : : : : : : : : : : : : : : : : : : : : : : : : :
DB 195 CPWQALLINEEGCGGTLSEFYLTAAALYQARFVYVGGRRTEDEGEGEAHVEY 254
||| : : : : : : : : : : : : : : : : : : : : : : : : :
QY 241 KEFVHPNYSKSTNDNIALHLAQPATSGTIVICLDPDGLAREHNAQGET-LVYG 299
||| : : : : : : : : : : : : : : : : : : : : : : : : :
DB 255 EVYIKNRPTKETIDFDIAVLRLKTPITFRNNVAPACLPRDMASTL--MTQRTGISVG 312
||| : : : : : : : : : : : : : : : : : : : : : : : : :
QY 300 WGYHSREKAKENTFVNFIRKIPVPHNECSWMSNMVSENMLCAGILDGRQDAQESD 359
||| : : : : : : : : : : : : : : : : : : : : : : : : :
DB 313 FGRTHKRGQSTR-----LMLLEVPLYDRNSCKLSSFTITQWFCAGYDTKQEDACQGD 367
||| : : : : : : : : : : : : : : : : : : : : : : : : :
QY 360 SGGPMVAFPHGTWFLVGLVWSGGCLLHNTGVTTKYSRLDWIHHGRDEAPQ-KSMA 418
||| : : : : : : : : : : : : : : : : : : : : : : : : :
DB 368 SGGPHVTRPKDYFVLTGIVSWBGCAKCKGKIYTKYLAFLKWDIMSKTKGLPKAKSHA 427
||| : : : : : : : : : : : : : : : : : : : : : : : : :
QY 419 P 419
||| : : : : : : : : : : : : : : : : : : : : : : : : :
DB 428 P 428
||| : : : : : : : : : : : : : : : : : : : : : : : : :
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```
RESULT 61
US-08-487-037-1
; Sequence 1, Application US/08487037
; Patent No. 5795863
; GENERAL INFORMATION:
; APPLICANT: Wolf, David L.
; TITLE OF INVENTION: RECOMBINANT AGENTS AFFECTING THROMBOSIS
; NUMBER OF SEQUENCES: 11
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: MORRISON & FOERSTER
; STREET: 2000 Pennsylvania Avenue, NW
```

```
CITY: Washington
STATE: DC
COUNTRY: USA
ZIP: 20006-1812
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/487,037
FILING DATE: 07-JUN-1995
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Adler, Reid G.
REGISTRATION NUMBER: 30,988
REFERENCE/DOCKET NUMBER: 2803-0002.02
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 887-1500
TELEFAX: (202) 887-0763
TELEX: 90-4030
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 488 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: both
FEATURE:
NAME/KEY: Modified-site
LOCATION: -17
OTHER INFORMATION: /note= "Location of Intron A"
FEATURE:
NAME/KEY: Modified-site
LOCATION: (37,38)
OTHER INFORMATION: /note= "Location of Intron B"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 46
OTHER INFORMATION: /note= "Location of Intron C"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 63
OTHER INFORMATION: /note= "Amino acid represented by
OTHER INFORMATION: the greek letter Beta"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 84
OTHER INFORMATION: /note= "Location of Intron D"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 128
OTHER INFORMATION: /note= "Location of Intron E"
FEATURE:
NAME/KEY: Modified-site
LOCATION: (209,210)
OTHER INFORMATION: /note= "Location of Intron F"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 249
OTHER INFORMATION: /note= "Location of Intron G"
FEATURE:
NAME/KEY: Peptide
LOCATION: -40..0
OTHER INFORMATION: /note= "Pre-Pro leader sequence"
FEATURE:
NAME/KEY: Protein
LOCATION: 1..139
OTHER INFORMATION: /note= "Factor Xa- Light chain"
FEATURE:
NAME/KEY: Peptide
LOCATION: 143..194
OTHER INFORMATION: /note= "Activation Peptide"
FEATURE:
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? NAME/KEY: Protein
? LOCATION: 195..448
? OTHER INFORMATION: /note= "Factor Xa-Heavy Chain"
? FEATURE:
? NAME/KEY: Disulfide-bond
? LOCATION: group(17..22,50..61,55..70,72..81,89..100,96
? LOCATION: ..109,111..124,132..302,201..206,221..237,
? LOCATION: 350..364,375..403)
? OS-08-487-037-1

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US-08-766-288-1
; Sequence 1, Application US/08766288
; Patent No. 5969040
; GENERAL INFORMATION:
; APPLICANT: Hallahan, et al.
; TITLE OF INVENTION: Factor IX - Polymeric Conjugates
; NUMBER OF SEQUENCES: 1
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: GALGANO & BURKE
; STREET: 300 Rabro Drive
; CITY: Hauppauge
; STATE: New York
; COUNTRY: USA
; ZIP: 11788
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette, 3.50 inch, 1.44 Mb Storage
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS 6.0
; SOFTWARE: Wordperfect 6.1
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/766,288
; FILING DATE: -
; CLASSIFICATION: 525
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/073,531
; FILING DATE: June 8, 1993
; ATTORNEY/AGENT INFORMATION:
; NAME: GALGANO & BURKE
; REGISTRATION NUMBER: 30,735
; REFERENCE/DOCKET NUMBER: 128-7 (DIV)
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (516) 582-6191
; TELEFAX: (516) 582-6191
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 415 Amino Acids
; TYPE: Amino Acid
; STRANDEDNESS: Single
; TOPOLOGY: Unknown to applicant
; MOLECULE TYPE: -
; HYPOTHEetical: -
; ANTI-SENSE: -
; ORIGINAL SOURCE:
; ORGANISM: -
; INDIVIDUAL ISOLATE: -
; CELL TYPE: -
; IMMEDIATE SOURCE:
; LIBRARY:
; CLONE:
; PUBLICATION INFORMATION:
; AUTHORS:
; TITLE:
; JOURNAL:
; VOLUME:
; ISSUE:
; PAGES:
; DATE:
; RELEVANT RESIDUES IN SEQ ID NO: 1: FROM 1 TO 415.
; US-08-766-288-1
Query Match 31.9%; Score 742; DB 2; Length 415;
Best Local Similarity 35.8%; Pred. No. 1.7e-55;
Matches 152; Conservative 69; Mismatches 156; Indels 48; Gaps 10;
QY 5 LEEIRHSSLERECEIEIDCEPEAKEIFQVNDTLAFWSKVDGDOQLVLPLEHPCASLCC 64
DB 6 LEEFVGNLERECMEKESCFEAREVFEVTEKTEFPKQYVSDQCEENP-----CL 57
QY 65 GHGCTIDIGSFCSCGSSGMBGRFCQREVSFLNSLDNGGCTHYCLEEVGR-RGSCAPG 123
DB 58 NGASCCKDDINSYECWCPEFGEGKNCEDLVY--CNINGRCEQCFKNSADMKVVCSTEG 114
QY 124 YKIGDILQCHPAVFPQGRPMKMEKRSNKKDPTDQGDYDP----- 168

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DB 115 YRLAENKCEBAVFPFCGRVSVSQTSLITRAEAVPD-VDIYNPFEAKTITNDITGTE 173
QY 169 -----RLIDGMTERGDSFMOVVLDSKKLIACGAVLHPSAVLTAACHCNDSESKILVR 222
DB 174 SFNDFTRVVGEDAKFGQFPWQVY-LNGKVDAFCGGSIVNEKVIYTAACHCVETGVKITVY 232
QY 223 LGEYDLRWEKNEMLDLDKEVFHPNYSKST--DNDIALHLAQPATLSQTIYPICTLD 280
DB 233 AGEHNIEETHTEQKRVYIRIIPHHYNNPAINKINHDLALLEDEPLVINSVTPICLAD 292
QY 281 SGLARELNQAQETLYTGWG--YHSSREKEAKNRFTVFNLEFKIPVYPHNECEVSNNM 338
DB 293 KEYNIFIKFG--SGVYGWGRVFFHGRS-----ALVLEYLRVPLVDRAICLRSTKET 343
QY 339 VSEMLCAGILDRDACEGDSGCPVVASFFHGTWFLVGLYSKESGGLHNYGYTYSR 398
DB 344 IYNNMFCAGFHGGRDSQGDGSGPHVTEVEGTSLGLIISWCEBCKMKKXGYITYSR 403
QY 399 YLDWI 403
DB 404 YNNWI 408
RESULT 64
US-08-487-037-3
; Sequence 3, Application US/08487037
; Patent No. 5795863
; GENERAL INFORMATION:
; APPLICANT: Wolf, David L.
; TITLE OF INVENTION: RECOMBINANT AGENTS AFFECTING THROMBOSIS
; NUMBER OF SEQUENCES: 11
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: MORRISON & ROEBSTER
; STREET: 2000 Pennsylvania Avenue, NW
; CITY: Washington
; STATE: DC
; COUNTRY: USA
; ZIP: 20006-1812
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC Compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/487,037
; FILING DATE: 07-JUN-1995
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Adler, Reid G.
; REGISTRATION NUMBER: 30,988
; REFERENCE/DOCKET NUMBER: 2803-0002.02
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (202) 887-1500
; TELEFAX: (202) 887-0763
; TELEX: 90-4030
; INFORMATION FOR SEQ ID NO: 3:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 437 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: both
; FEATURE:
; NAME/KEY: Modified-site
; LOCATION: -40..397
; OTHER INFORMATION: /note= "Same features apply from
; OTHER INFORMATION: SEQ ID NO:2"
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 1..139
; OTHER INFORMATION: /note= "Factor Xa - Light Chain"
; NAME/KEY:

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LOCATION: -40..0
OTHER INFORMATION: /note= "Pre-Pro leader sequence"
FEATURE:
NAME/KEY: Modified-site
LOCATION: -17
OTHER INFORMATION: /note= "Location of Intron A"
FEATURE:
NAME/KEY: Modified-site
LOCATION: (3738)
OTHER INFORMATION: /note= "Location of Intron B"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 46
OTHER INFORMATION: /note= "Location of Intron C"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 63
OTHER INFORMATION: /note= "An amino acid represented
OTHER INFORMATION: by the greek letter Beta"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 84
OTHER INFORMATION: /note= "Location of Intron D"
FEATURE:
NAME/KEY: Modified-site
LOCATION: (1587159)
OTHER INFORMATION: /note= "Location of Intron F"
FEATURE:
NAME/KEY: Modified-site
LOCATION: 198
OTHER INFORMATION: /note= "Location of Intron G"
FEATURE:
NAME/KEY: Disulfide-bond
LOCATION: group(17..22, 50..61, 55..70, 72..81, 89..100, 96
LOCATION: ..109, 111..124, 132..251, 150..155, 170..186,
LOCATION: 299..313, 324..352)
US-08-487-037-3

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Query Match 31.9%; Score 741.5; DB 1; Length 437;

Best Local Similarity 35.2%; Pred. No. 2e-55; Matches 148; Conservative 84; Mismatches 154; Indels 35; Gaps 8;

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QY 1 ANSFLERHSLSRECEIEICDPEEAKELFQVNDTLAFMSKVDGQCLVPLEHPCA 60
DB 41 ANSFLTMKKGH.LTRCMTTTCSTYTAFTFDSKXTFNNKXKGDCCENP----- 94
QY 61 SLCCGHTCTDGTGFSFCDCKSGWGRFCQREVSFLNSLDNGCTHYCLEEVGKRCSC 120
DB 95 --CQVQKCKKGLGEYTCLEGEFGKNCCLFTRKL-CSLDNGCQDFCHEQNSVVCSC 151
QY 121 APGYLGDLLQCHPAVKFPCGRPMKMEKKSGLKRDLEDQDVDPRLDGKMTTRGD 180
DB 152 AEGYTLADNGKACLPFGPFCOK-QTLERK-----RIVGQCKKGE 194
QY 181 SPWQVLLDSKKLACGAVLHPMSVLTAAHCDSESKLLVRLGEYDLRRWKEMLDLDI 240
DB 195 CPWQMLINEENEGFGGTLISEFYLLTAHCLYQAKPKYRVGDRTGESEGAHVHV 254
QY 241 KEVPVHYKSTTDDMLLAQPAISQITVPCLPDGLAEFLINQAGET-LVTG 299
DB 255 EVVIAHNFETETDNIATVRLKTPITFPMNAPACLPEDMAESTL-WQKGIYSG 312
QY 300 WGHSSREKEAKENRFVNFIKLIPVPHNECEWMSMVSNNM.CAGILGRODACEGD 359
DB 313 FGRTEKROSTR-----LKMELVYVDNRSCGLSSFTITONFCAGYDTQEDACGD 367
QY 360 SGGPVVASFHGTWFLVGLVSWGEGGLAHNYGYTTKVSRYLDMHIGIRDEKAPQ-KSMA 418
DB 368 AGGPHVTEFKDYFLVGLVSWGEGGCAKKGTYTVAFLAKWIDRSMKTRGLPRAKSHA 427
QY 419 P 419
DB 428 P 428

```

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RESULT 65
5521070-2
Patent No. 5521070
APPLICANT: MEULLEN, PIERRE
TITLE OF INVENTION: DNA SEQUENCE CODING FOR HUMAN FACTOR
IX OR A SIMILAR PROTEIN, EXPRESSION VECTOR, TRANSFORMED CELLS,
METHOD FOR PREPARING FACTOR IX AND CORRESPONDING PRODUCTS OBTAINED
NUMBER OF SEQUENCES: 6
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/209,489
FILING DATE: 14-MAR-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 970,966
FILING DATE: 03-NOV-1992
APPLICATION NUMBER: 433,276
FILING DATE: 08-NOV-1989
SEQ ID NO:2
LENGTH: 461
5521070-2

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Query Match 31.7%; Score 736.5; DB 6; Length 461;  
Best Local Similarity 35.7%; Pred. No. 5.6e-55;  
Matches 153; Conservative 72; Mismatches 157; Indels 47; Gaps 11;

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QY 1 ANSFLERHSLSRECEIEICDPEEAKELFQVNDTLAFMSKVDGQCLVPLEHPCA 59
DB 47 ANSGLBEFVQGNLREBCKECSFEARREVFENTRTTEFKQYVGDCCENP----- 101
QY 60 ASLCCGHTCTDGTGFSFCDCKSGWGRFCQREVSFLNSLDNGCTHYCLEEVGMR-RC 118
DB 102 ---CLNGSCDDINSYECMCFEGEGNCBLDT---CNINKGRCQFCKNSADKVVVC 155
QY 119 SCAPGYKLDLLOCHPAVKFPCGRPMKMEKKSGLKRDLEDQDVDPRLDGKMTTRGD 167
DB 156 SCTEGRIAEKQKSCPAVFPQGRVSVQTSKLTAEKVPDQVYNSTEAETITDNT 215
QY 168 -----PRLDGKMTTRGDSPMQVLLDSKKLACGAVLHPMSVLTAAHCDSESK 218
DB 216 QSTQSENFDTTVVGEDAKPGQFPMQV-LNGKYDAFCGGSIVAEKIVTAAICVETGK 274
QY 219 LTVRLGEYDLRRWKEMLDLDIKEVFVPHNYSKST--DNIDALLHAQPAISQITVPI 276
DB 275 ITVAHBNHIEETHEEQKRVYLRITPHNYYNAINKYHNDIALLEDEPLVANSYVTP 334
QY 277 CLPDGLAEFLINQAGETLVTGNG--YHSREKAKKRTVYANFKITVPHNCSCEV 334
DB 335 CLADKEYTNIFLKG--SGYSGWGRVYFHKGRS-----ALVQLYRLVPLVDRTCLRS 385
QY 335 MSNMVSENNM.CAGILGRODACEGDSGPMVASFHGTWFLVGLVSWGEGGLAHNYGYT 394
DB 386 TKETIYNMFCAGHGBGRDSCGDSGPHYTEVIGISFLTGIIISWEGCMMGKGIYT 445
QY 395 KVSRYLDMT 403
DB 446 KVSRYVNM 454

```

# RESULT 66

US-08-742-877-2  
Sequence 2, Application US/08742877  
Patent No. 6046380  
GENERAL INFORMATION:  
APPLICANT: CLARK, Anthony J.  
TITLE OF INVENTION: DNA SEQUENCES  
NUMBER OF SEQUENCES: 14  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: STERN, KESSLER, GOLDSTEIN & FOX, P.L.L.C.  
STREET: 1100 NEW YORK AVENUE, NW, SUITE 600  
CITY: WASHINGTON  
STATE: DC  
COUNTRY: USA

ZIP: 20005-3934  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/742,877  
FILING DATE: 01-NOV-1996  
CLASSIFICATION: 435  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: GB 9408717.8  
FILING DATE: 03-MAY-1994  
ATTORNEY/AGENT INFORMATION:  
NAME: FLESHNER, RAZ E.  
REGISTRATION NUMBER: 34,331  
REFERENCE/DOCKET NUMBER: 0623.0470001/REF  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (202) 371-2600  
TELEFAX: (202) 371-2540  
INFORMATION FOR SEQ ID NO: 2:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 461 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-742-877-2

Query Match 31.7%; Score 736; DB 3; Length 461;  
Best Local Similarity 35.4%; Pred. No. 6,2e-55;  
Matches 150; Conservative 72; Mismatches 156; Indels 46; Gaps 10;

QY 5 LEEHRSLSRECEIETDPEEAKETFOVNDTLAFMSKHVDDQCLVPLEHPCASLCC 64  
DB 52 LEEFVGQNLRECEMEKCSFEAEVFEVTEETETFEWKQYVGDQCESNP-----CL 103  
QY 65 GHGTCDIGISFSCDCRSWGGRFCQREVSFLNCSLDNGCTHYCLEEVGR-RCSGAPG 123  
DB 104 NGSCCKDDINSYECWCPFGFGKNCCLDVT---CNINGRCEQFCNSADNKVVCSTEG 160  
QY 124 YKLGDDLLQCHPAVKEPFGGRPWKMEKRSILKR-----DTBQEDQVD----- 167  
DB 161 YRLAENKSCGEPAVFPFGGRVSVQTSKLTREAVFPDQVYNSTAEFTIIDNTIGTOS 220  
QY 168 -----PRLDGKMTRRGDSPPQVVLDSKKKLACGAVLHPSWLTAAHOMESKLLVRL 223  
DB 221 FNDTRVGGSDAKRGQFPWQVY-LNGKVDACGGSIVNKMVLTAHCVETGKXITVVA 279  
QY 224 GEYDLRREKMEKELDIDKEVFEVHNYSKSTT--DNDIALHLAQPATLSQTIPTICLPDS 281  
DB 280 GEHNIEETETEGKKNVIRIIPHNNYNAAINKYNHDIALLDELPELVNSVYTPICIAK 339  
QY 282 GLARELUNQAGQETIYTGWG--YHSSREKAKRNTPYLNFIKIPVPHNECSEWMSNV 339  
DB 340 EYTNIFLKFG--SGVYSGMGRVFKGRS-----ALVLYLKVLPVDAATCLSTFTI 390  
QY 340 SENMLCAGILGDRDACEGDSGPMVASFHGTWPLVGLVSGCGCLINNYVYTKSRY 399  
DB 391 YNNFCAGFHFGGRSDCGDSGPHVTEVSGHFTLGLISGECAMKKGXITKXRY 450  
QY 400 LDWI 403  
DB 451 VNMV 454

RESULT 67  
US-09-053-871A-21  
Sequence 21, Application US/09053871A  
Patent No. 6315995  
GENERAL INFORMATION:  
APPLICANT: Pinsky, David J.  
APPLICANT: Stern, David  
APPLICANT: Rose, Eric

APPLICANT: Solomon, Robert A.  
APPLICANT: Schmidt, Ann Marie  
TITLE OF INVENTION: METHODS FOR TREATING AN ISCHEMIC DISORDER AND IMPROVING  
TITLE OF INVENTION: STROKE OUTCOME  
FILE REFERENCE: 51917-B  
CURRENT APPLICATION NUMBER: US/09/053,871A  
CURRENT FILING DATE: 1998-04-01  
NUMBER OF SEQ ID NOS: 22  
SOFTWARE: Patentin Ver. 2.1  
SEQ ID NO 21  
LENGTH: 461  
TYPE: PRT  
ORGANISM: Homo Sapien  
US-09-053-871A-21

Query Match 31.7%; Score 736; DB 4; Length 461;  
Best Local Similarity 35.4%; Pred. No. 6,2e-55;  
Matches 150; Conservative 72; Mismatches 156; Indels 46; Gaps 10;

QY 5 LEEHRSLSRECEIETDPEEAKETFOVNDTLAFMSKHVDDQCLVPLEHPCASLCC 64  
DB 52 LEEFVGQNLRECEMEKCSFEAEVFEVTEETETFEWKQYVGDQCESNP-----CL 103  
QY 65 GHGTCDIGISFSCDCRSWGGRFCQREVSFLNCSLDNGCTHYCLEEVGR-RCSGAPG 123  
DB 104 NGSCCKDDINSYECWCPFGFGKNCCLDVT---CNINGRCEQFCNSADNKVVCSTEG 160  
QY 124 YKLGDDLLQCHPAVKEPFGGRPWKMEKRSILKR-----DTBQEDQVD----- 167  
DB 161 YRLAENKSCGEPAVFPFGGRVSVQTSKLTREAVFPDQVYNSTAEFTIIDNTIGTOS 220  
QY 168 -----PRLDGKMTRRGDSPPQVVLDSKKKLACGAVLHPSWLTAAHOMESKLLVRL 223  
DB 221 FNDTRVGGSDAKRGQFPWQVY-LNGKVDACGGSIVNKMVLTAHCVETGKXITVVA 279  
QY 224 GEYDLRREKMEKELDIDKEVFEVHNYSKSTT--DNDIALHLAQPATLSQTIPTICLPDS 281  
DB 280 GEHNIEETETEGKKNVIRIIPHNNYNAAINKYNHDIALLDELPELVNSVYTPICIAK 339  
QY 282 GLARELUNQAGQETIYTGWG--YHSSREKAKRNTPYLNFIKIPVPHNECSEWMSNV 339  
DB 340 EYTNIFLKFG--SGVYSGMGRVFKGRS-----ALVLYLKVLPVDAATCLSTFTI 390  
QY 340 SENMLCAGILGDRDACEGDSGPMVASFHGTWPLVGLVSGCGCLINNYVYTKSRY 399  
DB 391 YNNFCAGFHFGGRSDCGDSGPHVTEVSGHFTLGLISGECAMKKGXITKXRY 450  
QY 400 LDWI 403  
DB 451 VNMV 454

RESULT 68  
US-10-133-907-5  
Sequence 5, Application US/10133907  
Patent No. 6677369  
GENERAL INFORMATION:  
APPLICANT: Chien, Kenneth R  
APPLICANT: Hoshijima, Masahiko  
TITLE OF INVENTION: Method to treat hemophilia by hepatic gene transfer of Factor V.  
FILE REFERENCE: 6627-Pat170  
CURRENT APPLICATION NUMBER: US/10/133,907  
CURRENT FILING DATE: 2002-04-25  
PRIOR APPLICATION NUMBER: 60/286,314  
PRIOR FILING DATE: 2001-04-25  
NUMBER OF SEQ ID NOS: 5  
SOFTWARE: Patentin version 3.1  
SEQ ID NO 5  
LENGTH: 461  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-133-907-5

Query Match 31.7%; Score 736; DB 4; Length 461;  
Best Local Similarity 35.4%; Pred. No. 6.2e-55;  
Matches 150; Conservative 72; Mismatches 156; Indels 46; Gaps 10;

QY 5 LEEJHSSLERECEIEICDFEAKEIFONVDDTLAFWSKHYDGDQCLVLEHPCASLCC 64  
DB 52 LEEFYQNLRECEMEKCSFEAREVEFENTERTEFMQYVDGQCSNP-----CL 103  
QY 65 GGGTCTGIGSPSCDRCSGMBGRFCQREVSFLNCSLDGGCTHYCLEBYGMR-RSCAPG 123  
DB 104 NGGSCKDINSYECWCFPGFEKNCEDLV---CNKNGRCQPCXKSNADNMYVCSCTEG 160  
QY 124 YKLGDDLIQCHPAVPCGPRWKRMEKRSHLK-----DTEDEQDQV----- 167  
DB 161 YRLANQSCGPAPVPPCGRVSVSOTSKLTRAFTVPDYVNSTEFTLIDNTQSTQS 220  
QY 168 ----PRLDGMTRRSDSPMOYVLLDSKKLACGAVLHPSPVLTAAHCNDESKLLVRL 223  
DB 221 FNDFTRVVGGADAPGQFPMQYV-LNGKVDAFCGSSIVNEKMYTAAHCVEYKLTYYA 279  
QY 224 GEYDRLRMEKMLDLDKEVFNPNYSKSTT--DNDIALHLAOPATLSQTIYPICLPDS 281  
DB 280 GHHNIEETHTEQKRVIRIIPHNNYNAALNKYNHDLALDELPLVNSYVTPICLADK 339  
QY 282 GLAERELNQAQETLYTGWG--YHSSREKAKNRTPVLPFKIPVYPHNECSBVMNV 339  
DB 340 EYTNIFLKFQ--SGYVSGMGRVFKGRS-----ALVLYQIRVPLVDRACTLAKSTFTI 390  
QY 340 SENMLCAGILDRDQACEDSGSPVVASFHTWFLVGVSWEGGGLHNYGYTVYSRY 399  
DB 391 YNNMFCAGFHEGGRDSCQDGSQGPVTEVEGTSTFLGIIISWEGCAMKKGYYGYTVYSRY 450  
QY 400 LDMT 403  
DB 451 YNMT 454

RESULT 69  
US-09-118-748-2  
Sequence 2, Application US/09118748A  
Patent No. 6531298  
GENERAL INFORMATION:  
APPLICANT: Stafford, Darrel W.  
TITLE OF INVENTION: Factor IX Antihemophilic Factor with Increased Clotting  
FILE REFERENCE: 5470-183  
CURRENT APPLICATION NUMBER: US/09/118,748A  
CURRENT FILING DATE: 1998-07-17  
EARLIER APPLICATION NUMBER: 60/053,571  
EARLIER FILING DATE: 1997-07-21  
NUMBER OF SEQ ID NOS: 2  
SOFTWARE: PatentIn Ver. 2.0  
SEQ ID NO 2  
LENGTH: 415  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-09-118-748-2

Query Match 31.6%; Score 735; DB 4; Length 415;  
Best Local Similarity 35.4%; Pred. No. 6.6e-55;  
Matches 150; Conservative 72; Mismatches 156; Indels 46; Gaps 10;

QY 5 LEEJHSSLERECEIEICDFEAKEIFONVDDTLAFWSKHYDGDQCLVLEHPCASLCC 64  
DB 6 LEEFYQNLRECEMEKCSFEAREVEFENTERTEFMQYVDGQCSNP-----CL 57  
QY 65 GGGTCTGIGSPSCDRCSGMBGRFCQREVSFLNCSLDGGCTHYCLEBYGMR-RSCAPG 123  
DB 58 NGGSCKDINSYECWCFPGFEKNCEDLV---CNKNGRCQPCXKSNADNMYVCSCTEG 114  
QY 124 YKLGDDLIQCHPAVPCGPRWKRMEKRSHLK-----DTEDEQDQV----- 167

DB 115 YRLANQSCGPAPVPPCGRVSVSOTSKLTRAFTVPDYVNSTEFTLIDNTQSTQS 174  
QY 168 ----PRLDGMTRRSDSPMOYVLLDSKKLACGAVLHPSPVLTAAHCNDESKLLVRL 223  
DB 175 FNDFTRVVGGADAPGQFPMQYV-LNGKVDAFCGSSIVNEKMYTAAHCVEYKLTYYA 233  
QY 224 GEYDRLRMEKMLDLDKEVFNPNYSKSTT--DNDIALHLAOPATLSQTIYPICLPDS 281  
DB 234 GHHNIEETHTEQKRVIRIIPHNNYNAALNKYNHDLALDELPLVNSYVTPICLADK 293  
QY 282 GLAERELNQAQETLYTGWG--YHSSREKAKNRTPVLPFKIPVYPHNECSBVMNV 339  
DB 294 EYTNIFLKFQ--SGYVSGMGRVFKGRS-----ALVLYQIRVPLVDRACTLAKSTFTI 344  
QY 340 SENMLCAGILDRDQACEDSGSPVVASFHTWFLVGVSWEGGGLHNYGYTVYSRY 399  
DB 345 YNNMFCAGFHEGGRDSCQDGSQGPVTEVEGTSTFLGIIISWEGCAMKKGYYGYTVYSRY 404  
QY 400 LDMT 403  
DB 405 YNMT 408

RESULT 70  
US-08-295-411-2  
Sequence 2, Application US/08295411  
Patent No. 5679639  
GENERAL INFORMATION:  
APPLICANT: Griffith, John H.  
APPLICANT: Meisters, Rolf M.  
TITLE OF INVENTION: Serine Protease-Derived Polypeptides and  
TITLE OF INVENTION: Anti-Peptide Antibodies, Systems and Therapeutic Methods  
NUMBER OF SEQUENCES: 10  
CORRESPONDENCE ADDRESS:  
ADDRESSER: Office of Patent Counsel, The Scripps  
ADDRESSER: Research Institute  
STREET: 10666 No. 5679639th Torrey Pines Road, TPC 8  
CITY: La Jolla  
STATE: CA  
COUNTRY: USA  
ZIP: 92037  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/295,411  
FILING DATE: 22-AUG-1994  
CLASSIFICATION: 530  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/793,989  
FILING DATE: 18-NOV-1991  
CLASSIFICATION: 530  
ATTORNEY/AGENT INFORMATION:  
NAME: Fitting, Thomas  
REGISTRATION NUMBER: 34,163  
REFERENCE/DOCKET NUMBER: TSP1263.0C1  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 619-554-2937  
TELEFAX: 619-554-6312  
INFORMATION FOR SEQ ID NO: 2:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 415 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHETICAL: NO  
ANTI-SENSE: NO  
FEATURE:  
NAME/KEY: Region

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344 IYNNMFCAGFHGGGRDSCQDSSGPHVTEVEGTSFLTGI

SWGEECAMKGGYITKVR 403

Db 404 YNWI 408

## RESULT 72

PCT-US92-10242-2

Sequence 2, Application PC/TUS9210242

GENERAL INFORMATION:

APPLICANT: Griffin, John H.

APPLICANT: Meesters, Rolf

TITLE OF INVENTION: Serine Protease-Derived Polypeptides and

TITLE OF INVENTION: Anti-Reptide Antibodies, Systems and Therapeutic Methods

TITLE OF INVENTION: for Inhibiting Coagulation

NUMBER OF SEQUENCES: 10

CORRESPONDENCE ADDRESS:

ADDRESSEE: Office of Patent Counsel, The Scripps

ADDRESS: Research Institute

STREET: 10666 North Torrey Pines Road, TPC 8

CITY: La Jolla

STATE: CA

COUNTRY: USA

ZIP: 92037

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patent Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

FILING DATE: 19921118

CLASSIFICATION:

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 07/793,989

FILING DATE: 18-NOV-1991

ATTORNEY/AGENT INFORMATION:

NAME: Fitting, Thomas

REGISTRATION NUMBER: 34,163

REFERENCE/DOCKET NUMBER: SCRO472P

TELECOMMUNICATION INFORMATION:

TELEPHONE: 619-554-2937

TELEFAX: 619-554-6312

INFORMATION FOR SEQ ID NO: 2:

SEQUENCE CHARACTERISTICS:

LENGTH: 415 amino acids

TYPE: AMINO ACID

TOPOLOGY: linear

MOLECULE TYPE: protein

HYPOTHETICAL: NO

ANTI-SENSE: NO

FEATURE:

NAME/KEY: Region

LOCATION: 1..145

OTHER INFORMATION: /note= "Factor IX Light Chain"

FEATURE:

NAME/KEY: Region

LOCATION: 181..415

OTHER INFORMATION: /note= "Factor IX Heavy Chain"

PCT-US92-10242-2

Query Match

Best Local Similarity 35.3%, Score 731; DB 5; Length 415;

Matches 150; Conservative 69; Mismatches 158; Indels 48; Gaps 10;

QY 5 LEEIRSSLEKCLIEICDEFEAKLIFQVVDITLAFMSKXVDQQLVPLEHPCASLCC 64

Db 6 LEEFVQGNLERCKEKEKSEFEPEEVETETEFKQYVDQCESNP-----CL 57

QY 65 GHGTCIDGIGSFCDCSSGWEGRFCQREVSFLNGLSUNGCHYHCLAEVGRK-RGSCAG 123

Db

58 NGGSCKDINDINSYECMCPFGPKNCGLDVT---CNIKNGCEQFCNNSDNKVCSCTEG 114

QY

124 YKLGDDLLQCHPAVKEPCGKPMKMEKRSKUKPTEBQEDQVDP----- 168

Db

115 YRLAENKSCSEPAVFPFCGRVSVSQTSLKTRAFAVFPD-VDVYVPEAETLLDNIQTG 173

QY

169 -----RLIDGKMTGRGDSPMQVTLDSKKLAGAVLHPSVTLAAACMEDESKLIV 222

Db

174 SPNFTVTVGGEAKPGQFPQV-LNGKVYDFCGSIVNEKIVTAACVETGKTIIV 232

QY

223 LGEYDLRMEKELDLDIKEVFVHPVYSKTT--DNDIALHLAOPATLSQTIYDIPD 280

Db

223 AGEHNIETETHEQGRNVTIRLIPHHYNAIKVHDIALLLEDEFLVNSVYPTICAD 292

QY

281 SGAEKRLNQAQOETLVYGC--YHSSREKAKRRTTVANFKITVYVHECEKWSNM 338

Db

293 KEYNIIFLKG--SGYVSGMARVHHKRS-----ALVLYQYRVPLVDRATCRSTFT 343

QY

339 VSENNLCAGILGDRDACEPSGSGPMVASFHGTWFLVGLVSMGEGGLLHNYGVYTKVSR 398

Db

344 IYNNMFCAGHEGSGDCSQDSGSPHYTVESGTSFLGIISGEBGAMKGIYTKVSR 403

QY

399 YLDMT 403

Db

404 YNWI 408

QY

404 YNWI 408

## RESULT 73

US-08-293-778-24

Sequence 24, Application US/08293778

Patent No. 5580560

GENERAL INFORMATION:

APPLICANT: Nicolaisen, Elise M.

APPLICANT: Bjorn, Soren E.

APPLICANT: Wiberg, Finn C.

APPLICANT: Woodbury, Richard

TITLE OF INVENTION: MODIFIED FACTOR VII/VIII

NUMBER OF SEQUENCES: 26

CORRESPONDENCE ADDRESS:

ADDRESSEE: No. 55805600 No. 5580560disk of No. 5580560th America, Inc.

STREET: 405 Lexington Avenue, 62nd floor

CITY: New York

STATE: New York

COUNTRY: United States of America

ZIP: 10174-6201

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patent Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/293,778

FILING DATE:

CLASSIFICATION: 435

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US/08/104,509

FILING DATE:

APPLICATION NUMBER: DK 3235/87

FILING DATE: 25-JUN-1987

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 07/434,149

FILING DATE: 13-NOV-1989

PRIOR APPLICATION DATA:

APPLICATION NUMBER: PCT/DK88/00103

FILING DATE: 24-JUN-1988

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 07/898,248

FILING DATE: 12-JUN-1992

ATTORNEY/AGENT INFORMATION:

NAME: Agis, Cheryl H.

REGISTRATION NUMBER: 34,086

REFERENCE/DOCKET NUMBER: 3129,224-US

TELECOMMUNICATION INFORMATION:



TELEPHONE: 212-867-0123  
TELEFAX: 212-867-0298  
INFORMATION FOR SEQ ID NO: 24:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 406 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-293-778-24

Query Match 30.5%; Score 708; DB 1; Length 406;  
Best Local Similarity 36.4%; Pred. No. 1,3e-52;  
Matches 154; Conservative 75; Mismatches 158; Indels 36; Gaps 10;

QY 1 ANSFLIEIRHSSLEKREICIEIDPEAKEIFQVNDTTLAFWSKAVDQCLVPLHPCA 60  
DB 1 ANAFIYLIRPSGLVRYCKYQCSFYARYIFKDAVATKLFWISYDDQC-----AS 52  
QY 61 SICGGRCTIDIGSSGCDRCGMEGRFCQ-REVSFLNCSIDNGGCTHYCLEVGMR-C 118  
DB 53 SPQNGSSCKPQLQSYICFLPAFGRNCTHKKDDQLICVNEGCGQYCSDHGTGKSC 112  
QY 119 SCAPGYKLGDDLLQCHPAVFPFGPWRKMEKRSKRLKRDTEDEDDVDPRLIDGKMTTR 178  
DB 113 RCHGYSLLADGVSCPTVEYPCGK-IPILEKNA-----SKQGRIVGKVCPEK 161  
QY 179 GSPNQVLLDKSKKACAVLIHNSWTLPAACMESEK---KLVNLSGYDLRMEKME 235  
DB 162 GRCPMQVLLVNGAQL-CGGLTINIVWSAACPDKIKNMRNLIATLGSHLSHSDDE 220  
QY 236 LDLDKEVFNHNSSTTNDNDIALHQAQATLSQTIYICLPDSGLARELNQAQET 295  
DB 221 QSRRAQVITIPSTVEITNDIALHQAQVLTTHVPLCEPERSFRTIAV-RFS 279  
QY 296 LVTGWYSSSEKAKNRTFVLFKIPVPENECEVW-----SNMVSNNLCAGLIG 350  
DB 280 LVSGWQGLLDREGATA-----LELWLVNPR.LMTQDCLQSRKVGSPNITEYVFCAGYSD 334  
QY 351 DRQDACEGDSGPMWASFGTWFVLVLSWEGCGLLHNYGTYKRSRYLDMHGHIDK 410  
DB 335 GSKDCKGDSGSPHATHYGTWYLVGIVSWGCGATVGHFGYTRVSQYIEMLQKLMSE 394  
QY 411 EAP 413  
DB 395 PRP 397

RESULT 74  
US-08-952-967-8  
Sequence 8, Application US/08952967  
Patent No. 6086871  
GENERAL INFORMATION:  
APPLICANT: Fischer, Bernhard  
APPLICANT: Schlokat, Uwe  
APPLICANT: Maltterer, Artur  
APPLICANT: Falkner, Falko-Guenther  
APPLICANT: Ebbl, Johann  
TITLE OF INVENTION: PROTHROMBIN DERIVATIVES  
NUMBER OF SEQUENCES: 22  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Foley & Lardner  
STREET: 3000 K Street, N.W., Suite 500  
CITY: Washington  
STATE: D.C.  
COUNTRY: USA  
ZIP: 20007-5109  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/952,967  
FILING DATE: 26-JAN-1998  
CLASSIFICATION: 514  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: PCT/AT96/00105  
FILING DATE: 12-JUN-1996  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: AT A 1006/95  
FILING DATE: 13-JUN-1995  
ATTORNEY/AGENT INFORMATION:  
NAME: Isaacson, John P.  
REGISTRATION NUMBER: 33,715  
REFERENCE/DOCKET NUMBER: 065691/0127  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (202)672-5300  
TELEFAX: (202)672-5399  
TELEX: 904136  
INFORMATION FOR SEQ ID NO: 8:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 622 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-952-967-8

Query Match 24.2%; Score 563.5; DB 3; Length 622;  
Best Local Similarity 28.9%; Pred. No. 5e-40;  
Matches 168; Conservative 63; Mismatches 160; Indels 191; Gaps 24;

QY 1 ANSFLIEIRHSSLEKREICIEIDPEAKEIFQVNDTTLAFWSKAVDQCLVPLHPCA 60  
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DB 103 ---CLEGNCAGSLGNRGHVNITNSGLECP-WRSKYPHKEINSTTHPGADLOENFGR 158  
QY 91 R-----EVSEFLN-----CSIDNG 103  
DB 159 NPDSIMGWCYTTPVTRRQBSIPVCGQDQVTVAMTPRSSESSVNLSPLEGCVPDAG 218  
QY 104 G-----CTH-----YCL-----EYVGRRCG 120  
DB 219 QOYGRVAVTTHGLPCILAMSAQAKLSKODFNSAVOLVENFCNPDGDEGVW---C 274  
QY 121 APGYKLGDD---DLQCHPAV-----KF 139  
DB 275 YVAGKPDGPGCYDLANYCEBAVEEFTGDDSDRALEGRTATSEYQTFNPRTPSGEA 334  
QY 140 PCG-RPMKMEKRSKRLKRDTEDEDDVDPRLIDGKMTTRGDSPMQVYL-DSKKKIACG 197  
DB 335 DCGLRP--LFEKKSLEDKTERELLESYIDGRIVGSDAIGMSPQVWLFFKSPQELILG 392  
QY 198 AVLIHNSWTLPAACM-----DES---KLVNLSGEVDLBRMEK-WELDLDKEVFNH 248  
DB 333 ASLISRWVLTAAHCLLYPPMDKNFTENDLVRIGKSRIRERIKISLWELKITYIHR 452  
QY 249 YS-KSTTNDIALHQAQATLSQTIYICLPDSGLARELNQAQETLVYWG- YHSS 306  
DB 453 YNMRNLDIDIALMLKPKPAVAFSDYIHPCLPDETA-ASLDAQKRVYGMGNLKEWT 511  
QY 307 EKEAKNRTFVNFKIPVPENECEVMSNMVSENNLCAGLI---GPRQACGSGG 363  
DB 512 TANVGQPSVQVAVNLEIVRPPVCDOSFRLIRDNFCAGYRPDEGRKGDACGDSGGP 571  
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DB 572 FVMSFPNNRMYQMGIVSWGCGDRGKIGFYTHFRLKMI 613

RESULT 75  
US-08-295-411-4  
Sequence 4, Application US/08295411

Patent No. 5679639  
GENERAL INFORMATION:  
APPLICANT: Griffith, John H.  
APPLICANT: Meesters, Rolf M.  
TITLE OF INVENTION: Serine Protease-Derived Polypeptides and  
TITLE OF INVENTION: Anti-Peptide Antibodies, Systems and Therapeutic Methods  
TITLE OF INVENTION: for Inhibiting Coagulation  
NUMBER OF SEQUENCES: 10  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Office of Patent Counsel, The Scripps  
ADDRESSEE: Research Institute  
STREET: 10666 No. 5679639th Torrey Pines Road, TPC 8  
CITY: La Jolla  
STATE: CA  
COUNTRY: USA  
ZIP: 92037  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
OPERATING SYSTEM: IBM PC compatible  
SOFTWARE: Patent Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/295,411  
FILING DATE: 22-AUG-1994  
CLASSIFICATION: 530  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/793,989  
FILING DATE: 18-NOV-1991  
CLASSIFICATION: 530  
ATTORNEY/AGENT INFORMATION:  
NAME: Fitting, Thomas  
REGISTRATION NUMBER: 34,163  
REFERENCE/DOCKET NUMBER: TSRI263.001  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 619-554-2937  
TELEFAX: 619-554-6312  
INFORMATION FOR SEQ ID NO: 4:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 579 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHETICAL: NO  
FEATURE:  
NAME/KEY: Region  
LOCATION: 1..320  
OTHER INFORMATION: /note= "Prothrombin Light Chain"  
NAME/KEY: Region  
LOCATION: 321..579  
OTHER INFORMATION: /note= "Prothrombin Heavy Chain"  
US-08-295-411-4  
Query Match 24.2%; Score 562.5; DB 1; Length 579;  
Best Local Similarity 28.9%; Pred. No. 5,66-40;  
Matches 168; Conservative 63; Mismatches 160; Indels 191; Gaps 24;  
QY 1 ANSHLEHSHSLSEECIEEICDEFEAKETIQNDITLAWSHVDGQCIPLLEHPA 60  
DB 1 ANFTLEVRKNGLEBECEVETCSYEAFALSSSTADYVMAKYACTART-PRKLLA 59  
QY 61 SLCGHGCTIDIGS-----PSCDCSSGMEGR-----PCQ 90  
DB 60 ---CLGNCABGLGYNRGVNTTRSGIECGQ-WRSYPIKPEINSTTHPADQENFCR 115  
QY 91 R-----EVSFLN-----CSLDNG 103  
DB 116 NPDSSNTGFWCTTDPYTRQECISIPVCGDQVTAMTPRSSESSVNLSPLEQCVBDRG 175  
QY 104 G-----CTH-----YCL-----EVSQWRCSC 120  
DB 176 QQVGRGLAVTTHTGLPCLAMASQAQKALSHGQDFNSAVQLVENFCRNPQDEGVM---C 231

QY 121 AFGYKUD-----DLIOCHPAY-----KF 139  
DB 232 YVAKRPDPFCYCDLVNVCCEAVEETGPDGDESDALIEGRATNSEXQTFPFRFGSGEA 291  
QY 140 PCG-RPKRMEKKRSHLRDTEDEQDQVDPRLIDKQTRGDSPMQVVL-DGKKXLAG 197  
DB 292 DQGLRP--LEFKSLDETERELIESTIGRIVESDAEIGMSFQWMLFRSPQELCG 349  
QY 198 AVLHPMSVLTAAHCV-----DSS---KKLLVRLGEYDLRWK-WELDLIDKEVFVHPN 248  
DB 350 ASLISDHWVLTAAHCLVLPMDKNFTENDLVIRIGKSRTRYENIKLSMEKTIYHR 409  
QY 249 YS-KSTDNDIALHQAATLSQTYPCIDPSGLARELNQAQETILVTGQ-YHSSR 306  
DB 410 YMRRENLDRIALMKIKKRVAFSDYIHPVCLPDRETA-ASLLAQYKGRVGTGMALKETW 468  
QY 307 EKEAKRRRTVLNFIKIPVPEHNECFWMSNMVSENMLCAGIL---GDRQDCEGDSGP 363  
DB 468 TANQKQSPVLDVYVNLPIVERPYCHDSRITRTNMFCAGYRPDEGRKGDCEGDSGP 528  
QY 364 NV--ASFHGTWFLVGLVSMGEGCGLLHNYGVYTKVSRYLWI 403  
DB 528 FVMKSPNNRWQMGIVSGECDDRGKYGFTYHFRUKW 570  
RESULT 76  
US-08-955-471-4  
Sequence 4, Application US/08955471  
Patent No. 5968751  
GENERAL INFORMATION:  
APPLICANT: Griffith, John H.  
APPLICANT: Meesters, Rolf M.  
TITLE OF INVENTION: Serine Protease-Derived Polypeptides and  
TITLE OF INVENTION: Anti-Peptide Antibodies, Systems and Therapeutic Methods  
NUMBER OF SEQUENCES: 10  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Office of Patent Counsel, The Scripps  
ADDRESSEE: Research Institute  
STREET: 10666 No. 5968751th Torrey Pines Road, TPC 8  
CITY: La Jolla  
STATE: CA  
COUNTRY: USA  
ZIP: 92037  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/955,471  
FILING DATE:  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/295,411  
FILING DATE:  
CLASSIFICATION:  
ATTORNEY/AGENT INFORMATION:  
NAME: Fitting, Thomas  
REGISTRATION NUMBER: 34,163  
REFERENCE/DOCKET NUMBER: TSRI263.001  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 619-554-2937  
TELEFAX: 619-554-6312  
INFORMATION FOR SEQ ID NO: 4:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 579 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHETICAL: NO  
ANTI-SENSE: NO



TITLE OF INVENTION: Anti-Peptide Antibodies, Systems and Therapeutic Methods  
TITLE OF INVENTION: for Inhibiting Coagulation  
NUMBER OF SEQUENCES: 10  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Office of Patent Counsel, The Scripps  
ADDRESSEE: Research Institute  
STREET: 10666 North Torrey Pines Road, TPC 8  
CITY: La Jolla  
STATE: CA  
COUNTRY: USA  
ZIP: 92037  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent in Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: PCT/US92/10242  
FILING DATE: 19921118  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/793,989  
FILING DATE: 18-NOV-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Fitting, Thomas  
REGISTRATION NUMBER: 34,163  
REFERENCE/DOCKET NUMBER: SC90472P  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 619-554-2937  
TELEFAX: 619-554-6312  
INFORMATION FOR SEQ ID NO: 4:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 579 amino acids  
TYPE: AMINO ACID  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHETICAL: NO  
ANTI-SENSE: NO  
FEATURE:  
NAME/KEY: Region  
LOCATION: 1..320  
OTHER INFORMATION: /note="Prothrombin Light Chain"  
FEATURE:  
NAME/KEY: Region  
LOCATION: 321..579  
OTHER INFORMATION: /note="Prothrombin Heavy Chain"  
PCT-US92-10242-4  
Query Match 24.2%; Score 562.5; DB 5; Length 579;  
Best Local Similarity 28.9%; Pred. No. 5,6e-40;  
Matches 168; Conservative 63; Mismatches 160; Indels 191; Gaps 24;  
QY 1 ANSFLEELHSLRECEIEICDFEFAKEIFQNVDDTLAFMSKVDGDCVLPLEHPCA 60  
DB 1 ANTFLEEVKRNLERECEIEICDFEFAKEISTATDVFAKTAETART-PRDKLAA 59  
QY 61 SLCCGHTGCTIDIGS-----FSCDGRSGWGR-----FCQ 90  
DB 60 ---CLEGNCAGCGTNYRGNVNTSGIEQOL-WRSRYPKPKELNSTTHGADLQENCR 115  
QY 91 R-----EVSFLN-----CSLNG 103  
DB 116 NPDSSNTGPMCYTTPTVRROCSIPVCGDDQVTVAMTRSRSGSVNLSPLEQCVPRG 175  
QY 104 G-----CTH-----YCL-----EYGMRRSCG 120  
DB 176 QQYQGRILAVTHGIPCLLAWSQAALSKIDPNSAVQVLENFCNPDGSEBVG-----C 231  
QY 121 APGYKAD---DLQCHPAV-----KF 139  
DB 232 YVAGKPGDFGYCDLNYCEAEVEETGDLDESDRAIEGRATSYOTFFNPPTFGSGA 291  
QY 140 PGK-RPWKRMKRSKSLKDTEDQDQDQVDPRLIDGMTRRSGSPQGVLL-DSKKTLACG 197

DB 292 DQGLRP--LEFKSLDEKTERELLESYIDGRIVESDAIEGMSQVMLEFRSPQELLCG 349  
QY 198 ATLHPFWMLTAHCH-----DES---KCLVRIEYDLREWEK-WELLDLKEFYVAPN 248  
DB 350 ASLISDRNVLTAAHCLYPMDKNFTENDLVRIQHSRTYENIEKLSMELEKIYHPR 409  
QY 249 VS-KSTNDIALHIAOPATISQIVPICLPDGLAREINQAGETVLTGMG-YHSSR 306  
DB 410 YMKRENLDRIALMLKRVAFSDYIHPCLPDRETA-ASLLQGYKGYRTGMNLEKTM 468  
QY 307 EKEAQRNFTVYLFIKIPVPHNECSEVSNMYSNNLCAGIL---GDRDACEGDSGP 363  
DB 469 TANVKGQPSVLYQVNLPIVERPVCKDSTRIRITDMFCAGYKPDGKDCACBPSGAP 528  
QY 364 MV--ASFHGTMLVGLVSGEGCLLNHYGVYTKYSRYLDMT 403  
DB 529 FVMSKPFNNRWQMGIVSWGBCRDGKGYPTHVRLKMT 570  
RESULT 79  
US-07-998-972A-3  
Sequence 3, Application US/07998972A  
Patent No. 5476777  
GENERAL INFORMATION:  
APPLICANT: Holly, Richard D.  
APPLICANT: Foster, Donald C.  
TITLE OF INVENTION: METHODS FOR PRODUCING THROMBIN  
NUMBER OF SEQUENCES: 48  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Townsend and Townsend  
STREET: One Market Plaza, Stewart Street Tower,  
STREET: Twentieth Floor  
CITY: San Francisco  
STATE: CA  
COUNTRY: USA  
ZIP: 94105  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent in Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/07/998,972A  
FILING DATE: 19921230  
CLASSIFICATION: 435  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/860,701  
FILING DATE: 31-MAR-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/816,281  
FILING DATE: 31-DEC-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Parmelee, Steven W  
REGISTRATION NUMBER: 31,990  
REFERENCE/DOCKET NUMBER: 13952-12-2  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 206-467-9600  
TELEFAX: 415-543-5043  
INFORMATION FOR SEQ ID NO: 3:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 615 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-07-998-972A-3  
Query Match 24.2%; Score 562.5; DB 1; Length 615;  
Best Local Similarity 28.9%; Pred. No. 5e-40;  
Matches 168; Conservative 63; Mismatches 160; Indels 191; Gaps 24;  
QY 1 ANSFLEELHSLRECEIEICDFEFAKEIFQNVDDTLAFMSKVDGDCVLPLEHPCA 60

Db 37 ANTFLEVRKGNLERECVEETCSYEAFEALESSTADTVFAKYTACTART-PRDKLAA 95  
QY 61 SLCGHGTCIDIGS-----FSCDCRSMEGR-----FCQ 90  
Db 96 ---CLEGNCABGLGYNRGHVNITRSIGIECOL-WRSRYPHKEINSTTHBGADLOENFCR 151  
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Db 152 NPDSSNTGPMWCTTDPVTRROCSIPVCGQDQVTAMTPRSGSSVNLSPLEQCVPRG 211  
QY 104 G-----CTH-----YCL-----EYGMRRCSG 120  
Db 212 QOYGRLAVTTHGLPCILAMASQAALSKHODFNSAVOLVENFCNPDGDEGVW-----C 267  
QY 121 APGYKLGD-----DLQCHPAV-----KF 139  
Db 268 YVAGKRGDPFGCDLNYCEBAVEETGDLGDESDRAIEGRATSEYQTFNPRTPGSGEA 327  
QY 140 PCG-RPMKMEKRSKSHKRDTEQDQDVPRLIDGKTRRGSPMQVLL-DSKKKLACG 197  
Db 328 DCGLRP--LFEKSLDEKTERELLESYIDGRIVGSDAIGSPMQVMLFRKSPQBLDGG 385  
QY 198 AVLIHPSVLTAAHOM-----DES---KLLVRLGEYDLRMEK-WELDLJKEVFYHPN 248  
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QY 249 YS-KSTTNDIALHLAOPATLSQITVPICLPSGLAEELNOAQOETLVYGMG-YHSSR 306  
Db 446 YMKRENLDRIALMLKPKPAFSDYIHVCLPDRBTA-ASLDQAGYKRGVYGMNLKETW 504  
QY 307 EKEAKNRRTFVNLFIKIPVPHNECEVSNVSNMLCAGIL--GDROACGSGSP 363  
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RESULT 80  
US-08-463-953-3  
Sequence 3, Application US/08463953  
Patent No. 5502034  
GENERAL INFORMATION:  
APPLICANT: Holly, Richard D.  
APPLICANT: Foster, Donald C.  
TITLE OF INVENTION: METHODS FOR PRODUCING THROMBIN  
NUMBER OF SEQUENCES: 48  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Townsend and Townsend  
STREET: One Market Plaza, Stewart Street Tower,  
STREET: Twentieth Floor  
CITY: San Francisco  
STATE: CA  
COUNTRY: USA  
ZIP: 94105  
COMPUTER READABLE FORM:  
MEDIUM TYPE: floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/463,953  
FILING DATE:  
CLASSIFICATION: 514  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/860,701  
FILING DATE: 31-MAR-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/816,281  
FILING DATE: 31-DEC-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Parmelee, Steven W

REGISTRATION NUMBER: 31,990  
REFERENCE/DOCKET NUMBER: 13952-12-2  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 206-467-9600  
TELEFAX: 415-543-5043  
INFORMATION FOR SEQ ID NO: 3:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 615 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLSCUPE TYPE: protein  
US-08-463-953-3  
Query Match 24.2%; Score 562.5; DB 1; Length 615;  
Best Local Similarity 28.9%; Pred. No. 6e-40;  
Matches 166; Conservative 63; Mismatches 160; Indels 191; Gaps 24;  
QY 1 ANSFLEVRKGNLERECVEETCSYEAFEALESSTADTVFAKYTACTART-PRDKLAA 95  
Db 37 ANTFLEVRKGNLERECVEETCSYEAFEALESSTADTVFAKYTACTART-PRDKLAA 95  
QY 61 SLCGHGTCIDIGS-----FSCDCRSMEGR-----FCQ 90  
Db 96 ---CLEGNCABGLGYNRGHVNITRSIGIECOL-WRSRYPHKEINSTTHBGADLOENFCR 151  
QY 91 R-----EVSFLN-----CSLDNG 103  
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QY 198 AVLIHPSVLTAAHOM-----DES---KLLVRLGEYDLRMEK-WELDLJKEVFYHPN 248  
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Db 565 FVMKSPFNKNRYQMGIVSMGEGCDRGKGYTHVFLKXMI 606

RESULT 81  
US-08-462-261-3  
Sequence 3, Application US/08462261  
Patent No. 5527692  
GENERAL INFORMATION:  
APPLICANT: Holly, Richard D.  
APPLICANT: Foster, Donald C.  
TITLE OF INVENTION: METHODS FOR PRODUCING THROMBIN  
NUMBER OF SEQUENCES: 48  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Townsend and Townsend  
STREET: One Market Plaza, Stewart Street Tower,  
STREET: Twentieth Floor  
CITY: San Francisco  
STATE: CA

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? COUNTRY: USA
? ZIP: 94105
? COMPUTER READABLE FORM:
? MEDIUM TYPE: Floppy disk
? COMPUTER: IBM PC compatible
? OPERATING SYSTEM: PC-DOS/MS-DOS
? SOFTWARE: Patent in Release #1.0, Version #1.25
? CURRENT APPLICATION DATA:
? APPLICATION NUMBER: US/08/462,261
? FILING DATE: 05-JUN-1995
? CLASSIFICATION: 424
? PRIOR APPLICATION DATA:
? APPLICATION NUMBER: US 07/998,972
? FILING DATE: 30-DEC-1992
? APPLICATION NUMBER: US 07/860,701
? FILING DATE: 31-MAR-1992
? PRIOR APPLICATION DATA:
? APPLICATION NUMBER: US 07/816,281
? FILING DATE: 31-DEC-1991
? ATTORNEY/AGENT INFORMATION:
? NAME: Parmelee, Steven W
? REGISTRATION NUMBER: 31,990
? REFERENCE/DOCKET NUMBER: 13952-12-2
? TELECOMMUNICATION INFORMATION:
? TELEPHONE: 206-467-9600
? TELEFAX: 415-543-5043
? INFORMATION FOR SEQ ID NO: 3:
? SEQUENCE CHARACTERISTICS:
? LENGTH: 615 amino acids
? TYPE: amino acid
? TOPOLOGY: linear
? MOLECULE TYPE: protein
? US-08-462-261-3

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Query Match      24.2%; Score 562.5; DB 1; Length 615;
Best Local Similarity 28.9%; Pred. No. 66-40;
Matches 168; Conservative 63; Mismatches 160; Indels 191; Gaps 24;

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QY 1 ANSFLLEIRSSIERECIEICDPEEAKEIFQVNDTTLAFMSKVDQCVLPLEHPCA 60
DB 37 ANTFLEIRKNIERECVEETCSYEEAFALSSATIDVFMAXTACETART-PRDCLAA 95
QY 61 SLCCGHTCIDIGS-----FSCDRSGWGR-----FCQ 90
DB 96 ---CLEGNCAEGAGTNYRGHVNITRSGIECOL-WRSRYPHKPEINSTTHPGADLOENFCR 151
QY 91 R-----EVSFLN-----CSLDNG 103
DB 152 NPDSNTGPMCTTPTVPRQECIPVCGQDQVTAMTPRSESSSVNLSPLEQCVPDRG 211
QY 104 G-----CTH-----YCL-----EEVGRRCSC 120
DB 212 QOYGRLAVTTHGLPCLAMASQAQKALSKHQDPNSAVQVLENFCRNPDDDEGVM---C 267
QY 121 APGYKLD---DLQCHPAV-----KF 139
DB 268 YVAKPGDFGVCYDLNCEAVBEETGDLDESDRAIRGATATSEYQTFNERTFGSGEA 327
QY 140 PCG-RPMKREKREKSHLRDDEDOYVPRLLDGKTRGDSPQWVUL--DSKKKLACG 197
DB 328 DCGARP--LEFKSLIEDTERELLESYIDGRIVEGSDAETIGMSPQWVULFRKSPQELLCG 385
QY 198 AVLIHPSWVLTAAHGM-----DES---KLLVRLGYDRLRWEK-WELDLDIKEFVHPN 248
DB 386 ASLISDRWVLTAAHCLLPMDKNTFENDLVRIGKHSRTYRENIEXISMLEKIYIHR 445
QY 249 YS-KSTNDNDIALHLAOPATLSQTVICLPDSGLAREINQAQCEPVLVTGMG-YHSSR 306
DB 446 YWNEENLDRDIALMKLKRPVAFSDYIHPVCLDPRETA-ASLDAQYKGVITGWLKXTW 504
QY 307 EKEAKRRRTFVNFKIKIPVPHNCSGVMSNMVSNMCAGLI---GDSQDQACBGDGGP 363
DB 505 TANVKGQPSVLOVNLPIVERPVCKDSTRIRITNNMFCAGYKPRDGKRGACBGDSGAP 564

```

```

QY 364 WY--ASFHGTWELVGLVSMRGCGSLAHNYGYTKYSRYLDMI 403
DB 565 FVMSPPNNRWYOMKGVSMRGCDROGKTGFTHYFRLAKWI 606

```

```

RESULT 82
PCT-US92-11357-3
? Sequence 3 Application PC/TUS9211357
? GENERAL INFORMATION:
? APPLICANT: Holly, Richard D.
? APPLICANT: Foster, Donald C.
? TITLE OF INVENTION: METHODS FOR PRODUCING THROMBIN
? NUMBER OF SEQUENCES: 48
? CORRESPONDENCE ADDRESS:
? ADDRESSEE: Townsend and Townsend
? STREET: One Market Plaza, Stewart Street Tower,
? CITY: San Francisco
? STATE: CA
? COUNTRY: USA
? ZIP: 94105
? COMPUTER READABLE FORM:
? MEDIUM TYPE: Floppy disk
? COMPUTER: IBM PC compatible
? OPERATING SYSTEM: PC-DOS/MS-DOS
? SOFTWARE: Patent in Release #1.0, Version #1.25
? CURRENT APPLICATION DATA:
? APPLICATION NUMBER: PCT/US92/11357
? FILING DATE: 19921230
? CLASSIFICATION:
? PRIOR APPLICATION DATA:
? APPLICATION NUMBER: US 07/860,701
? FILING DATE: 31-MAR-1992
? PRIOR APPLICATION DATA:
? APPLICATION NUMBER: US 07/816,281
? FILING DATE: 31-DEC-1991
? ATTORNEY/AGENT INFORMATION:
? NAME: Parmelee, Steven W
? REGISTRATION NUMBER: 31,990
? REFERENCE/DOCKET NUMBER: 13952-12-2
? TELECOMMUNICATION INFORMATION:
? TELEPHONE: 206-467-9600
? TELEFAX: 415-543-5043
? INFORMATION FOR SEQ ID NO: 3:
? SEQUENCE CHARACTERISTICS:
? LENGTH: 615 amino acids
? TYPE: AMINO ACID
? TOPOLOGY: linear
? MOLECULE TYPE: protein
? PCT-US92-11357-3

```

```

Query Match      24.2%; Score 562.5; DB 5; Length 615;
Best Local Similarity 28.9%; Pred. No. 66-40;
Matches 168; Conservative 63; Mismatches 160; Indels 191; Gaps 24;

```

```

QY 1 ANSFLLEIRSSIERECIEICDPEEAKEIFQVNDTTLAFMSKVDQCVLPLEHPCA 60
DB 37 ANTFLEIRKNIERECVEETCSYEEAFALSSATIDVFMAXTACETART-PRDCLAA 95
QY 61 SLCCGHTCIDIGS-----FSCDRSGWGR-----FCQ 90
DB 96 ---CLEGNCAEGAGTNYRGHVNITRSGIECOL-WRSRYPHKPEINSTTHPGADLOENFCR 151
QY 91 R-----EVSFLN-----CSLDNG 103
DB 152 NPDSNTGPMCTTPTVPRQECIPVCGQDQVTAMTPRSESSSVNLSPLEQCVPDRG 211
QY 104 G-----CTH-----YCL-----EEVGRRCSC 120
DB 212 QOYGRLAVTTHGLPCLAMASQAQKALSKHQDPNSAVQVLENFCRNPDDDEGVM---C 267
QY 121 APGYKLD---DLQCHPAV-----KF 139

```

```

Db      268 YVAGKPGDFGCVLANCEAAVEETGGDLEDSDRAIBGRTATSEYTFENFRRTGSGEA 327
      |||
Qy      140 PGG-RPMKMEKRSKSLKCDTDEQDQVDPRLIDGMTRRQDSWQVLL-DSKKIACG 197
      |||
Db      328 DQGLRP--LFEKKSLEDKTERELLESYIDRIVEGDAEIGMSWQVLFKSPQELLCG 385
      |||
Qy      198 AVLIHPSWVLAACHM-----DES---KLLVRLGEYDLRMEK-WEIIDLIDKEVFNHPN 248
      |||
Db      386 ASLISDRWVLAACHLLPYPMDKNTENDLIVIGHSRTYERNEIKTSMLEKIYIHR 445
      |||
Qy      249 YS-KSTTNDIALHLAQPATLSQTVIPICLPDGLARELNQAGETLYTGMG-YHSSR 306
      |||
Db      446 YVMBENLDRIALMKLKPAPSDYIHVCLPDRETA-ASLLQGYKGRVYTGWNLKETW 504
      |||
Qy      307 EKEAKRNTFLNFIKIPVYPHNECEVMSNMVSENNLCAGIL--GDRQDACEGDSGGP 363
      |||
Db      505 TANVKGQPSVLQVVMPIYERPVCKDSTRITDNNFCAGYPRDKRGKACEDSGSGP 564
      |||
Qy      364 MV--ASFHGTWFLVGLVSWGEGGLHNYGYTKVSRYLDMI 403
      |||
Db      565 FYMKSPNNRWYQMGIVSWGEGCDRDGKYGYTHVFRLLKMI 606
      |||

```

```

RESULT 83
US-08-338-368-2
; Sequence 2, Application US/08338368
; Patent No. 6110721
; GENERAL INFORMATION:
; APPLICANT: GIBBS, CRAIG S.
; APPLICANT: LEUNG, LAWRENCE L.K.
; APPLICANT: TSIANG, MANUEL
; TITLE OF INVENTION: NOVEL POLYPEPTIDES AND COAGULATION
; TITLE OF INVENTION: THERAPY
; NUMBER OF SEQUENCES: 2
; CORRESPONDENCE ADDRESSES:
; ADDRESSEE: GILEAD SCIENCES, INC.
; STREET: 353 LAKESIDE DRIVE
; CITY: FOSTER CITY
; STATE: CALIFORNIA
; COUNTRY: USA
; ZIP: 94404
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/338,368
; FILING DATE: 14-NOV-1994
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/258,038
; FILING DATE: 10-JUN-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: HENSLEY, MAX D.
; REGISTRATION NUMBER: 27,043
; REFERENCE/DOCKET NUMBER: 190.2
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415-574-3000
; TELEFAX: 415-573-4899
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 295 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-338-368-2

```

```

Query Match      20.5%, Score 475.5, DB 3, Length 295,
Best Local Similarity 39.9%, Pred. No. 6.8e-33,
Matches 112; Conservative 43; Mismatches 105; Indels 21; Gaps 11;

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```

Qy      141 CG-RPMKMEKRSKSLKCDTDEQDQVDPRLIDGMTRRQDSWQVLL-DSKKIACGA 198
      |||
Db      9 CGLRP--LFEKKSLEDKTERELLESYIDRIVEGDAEIGMSWQVLFKSPQELLCGA 66
      |||
Qy      199 VLIHPSWVLAACHM-----DES---KLLVRLGEYDLRMEK-WEIIDLIDKEVFNHPN 249
      |||
Db      67 SLISDRWVLAACHLLPYPMDKNTENDLIVIGHSRTYERNEIKTSMLEKIYIHPY 126
      |||
Qy      250 S-KSTTNDIALHLAQPATLSQTVIPICLPDGLARELNQAGETLYTGMG-YHSSR 307
      |||
Db      127 NMBENLDRIALMKLKPAPSDYIHVCLPDRETA-ASLLQGYKGRVYTGWNLKETW 185
      |||
Qy      308 KEAKRNTFLNFIKIPVYPHNECEVMSNMVSENNLCAGIL--GDRQDACEGDSGGP 364
      |||
Db      186 ANVKGQPSVLQVVMPIYERPVCKDSTRITDNNFCAGYPRDKRGKACEDSGSGP 245
      |||
Qy      365 V--ASFHGTWFLVGLVSWGEGGLHNYGYTKVSRYLDMI 403
      |||
Db      246 VMKSPNNRWYQMGIVSWGEGCDRDGKYGYTHVFRLLKMI 286
      |||

```

```

RESULT 84
US-09-027-337-7
; Sequence 7, Application US/09027337B
; Patent No. 5972616
; GENERAL INFORMATION:
; APPLICANT: O'Brien, Timothy J.
; APPLICANT: Tanimoto, Hirotochi
; TITLE OF INVENTION: TMDG-15: An Extracellular Serine Protease Overexpressed in
; TITLE OF INVENTION: Breast and Ovarian Carcinomas
; FILE REFERENCE: D6064
; CURRENT APPLICATION NUMBER: US/09/027,337B
; CURRENT FILING DATE: 1998-02-20
; NUMBER OF SEQ ID NOS: 13
; SEQ ID NO 7
; LENGTH: 255
; TYPE: PRT
; ORGANISM: Unknown
; FEATURE:
; OTHER INFORMATION: Serine protease catalytic domain of factor 7 (Fac7)
; OTHER INFORMATION: homologous to similar domain in TMDG-15
; US-09-027-337-7

```

```

Query Match      20.4%, Score 473.5, DB 2, Length 255;
Best Local Similarity 37.9%, Pred. No. 8.4e-33;
Matches 96; Conservative 52; Mismatches 90; Indels 15; Gaps 5;

```

```

Qy      169 RLIDGMTRRQDSWQVLLDSKKIACGAVLIHPSWVLAACHMDESK--KLLVRLGE 225
      |||
Db      1 RIVGKVCPEKGECPQVLLVNGAQL-CGGTILNTIVSAACFPKIKMKNRLIATVGE 59
      |||
Qy      226 YDLRMEKWEIIDLIDKEVFNHPNYSKSTTNDIALHLAQPATLSQTVIPICLPDGLAE 285
      |||
Db      60 HDLSEHDGDEGRRAVQAQITISTYVGTNHDIALRLQPVLLDHWVCLDERTFSE 119
      |||
Qy      286 RELNQAQETLYTGMGCHSSSEKAKRNTFLNFIKIPVYPHNECEVMSNMV 340
      |||
Db      120 RLIAFV-RFSLVSGWGLDRLGATA-----LELWLVNPLRLMTQDLQSRKRVGDSNIT 173
      |||
Qy      341 ENMLCAGILIDQDACEGDSGGPVLASFGHTWFLVGLVSWGEGGLHNYGYTKVSRYL 400
      |||
Db      174 EYMCAGYSTGSDSKDSCGPHATHRGVLYLGLVSWGQCAIVGHFGVYTVISQYL 233
      |||
Qy      401 DWIGHIRDEKAF 413
      |||
Db      234 EWLQKMRSEPR 246
      |||

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```

RESULT 85
US-09-644-600-7
; Sequence 7, Application US/09644600
; Patent No. 6451500
; GENERAL INFORMATION:

```

Query Match	20.4%	Score 473.5;	DB 4;	Length 255;
Best Local Similarity	37.9%	Pred. No. 8.4e-33;		
Matches	96;	Conservative	52;	Mismatches 90;
			Indels	15;
			Gaps	5

Query Match	20.4%;	Score 473.5;	DB 1;	Length 655;
Best Local Similarity	28.3%;	Pred. No. 2.7e-32;		
Matches 11;	Conservative 58;	Mismatches 168;	Indels 131;	Gaps 18



```

QY 15 RECIEICDPEBAKEIFQNVDTLAFMSKHVDGDL-----VLPLEHPCASLC 63
DB 195 KDCGTEKCFDETRTEYLEGGDRMARVQGHVQCECFGRGRTWCGRHTNACLSFCLN-- 252
QY 64 CGHGTG--IDGIGSFSCDCRSGMEGRFCQREVSFLNCSLDNG----- 103
DB 253 --GCTCHLIYATGTTVACAPPGFAGRLCNIEPD-ERCFLNGOTGYRGVASTASGSLCLA 309
QY 104 -----GCTHYCL-----EYGV-----RRCSC 120
DB 310 WNSDLLYOELHVDVSGAALLGLGPHAYCRNPNDERPMVCYVVDASLSMEYCRLEACES 369
QY 121 APGYKLGDDLLQCHPAVPCGCRPMKMEKKRSHLKRDEQEDQVDPRLIDGKMTREGD 180
DB 370 LTRVQSLPDLATLPEPASPGROACGRHKRKTFLR-----PRIGSSSLPS 418
QY 181 SPW--QVVLDSKKKLCAGAVLIHPSWVLTAAHCMDSS--KLLVRLGEYDLRMEKWE 235
DB 419 HPMLAIVIGDS---FCAGSLVHTCWMVSAHCFSHSPRDSVSVLQGHFNRRTDVT 474
QY 236 LDLDIKEYFVHPNYSK-STTDNDIALHLAQP-----ATLSQTIYVPCIPDGLARELNG 290
DB 475 QTFGEIKYIPYTLVSFNPBDHLVLRKKGRCATRSQFVQPICLPEPG---STP 530
QY 291 AGOETLVGMGY-----HSSREKAKRNTFVLFIKIPVPHNECS--EVMNNVSE 341
DB 531 AGHKQIAGMGLDENNSGYSSSLRA-----LVPLVAHKCSSPEVYGVADISP 579
QY 342 NMLCAGILGRDQACGDSGGPMVASFHGTWFLVGLVSWGSGGLIHHYVYTKYSRIYD 401
DB 580 NMLCAGYFDCKSDACQDGSQGPLACEKNGVAYLIGIISWDCGRLHKRGVYTVYAVYD 639
QY 402 WIGHIRDKAPQKSNAP 419
DB 640 WINDRIR---PPRLVAP 654

RESULT 88
US-08-448-937A-12
/ Sequence 12, Application US/08448937A
/ Patent No. 5677164
/ GENERAL INFORMATION:
/ APPLICANT: Takeshi SHIMOMURA et al.
/ TITLE OF INVENTION: No. 5677164el Protein and Gene Encoding Said Protein
/ NUMBER OF SEQUENCES: 14
/ CORRESPONDENCE ADDRESS:
/ ADDRESSEE: Wenderoth, Lind & Ponack
/ STREET: 805 Fifteenth Street, N.W., #700
/ CITY: Washington
/ STATE: D.C.
/ COUNTRY: U.S.A.
/ ZIP: 20005
/ COMPUTER READABLE FORM:
/ MEDIUM TYPE: Diskette, 5.25 inch,
/ MEDIUM TYPE: 500 Kb Storage
/ COMPUTER: IBM Compatible
/ OPERATING SYSTEM: MS-DOS
/ SOFTWARE: Wordperfect
/ CURRENT APPLICATION DATA:
/ APPLICATION NUMBER: US/08/448,937A
/ FILING DATE: May 24, 1995
/ CLASSIFICATION: 435
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: 08/148,910
/ FILING DATE: No. 5677164member 5, 1993
/ ATTORNEY/AGENT INFORMATION:
/ NAME: Warren M. Cheek, Jr.
/ REGISTRATION NUMBER: 33,367
/ REFERENCE/DOCKET NUMBER:
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: 202-371-8850
/ TELEFAX: 202-371-8856
/ TELEX:

```

```

/ INFORMATION FOR SEQ ID NO: 12:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 655 amino acids
/ TYPE: amino acid
/ STRANDEDNESS: single
/ TOPOLOGY: linear
/ MOLECULE TYPE: protein
/ ORIGINAL SOURCE:
/ ORGANISM: human
US-08-448-937A-12

Query Match      20.4%; Score 473.5; DB 1; Length 655;
Best Local Similarity 28.3%; Pred. No. 2.7e-32;
Matches 141; Conservative 58; Mismatches 168; Indels 131; Gaps 18;

QY 15 RECIEICDPEBAKEIFQNVDTLAFMSKHVDGDL-----VLPLEHPCASLC 63
DB 195 KDCGTEKCFDETRTEYLEGGDRMARVQGHVQCECFGRGRTWCGRHTNACLSFCLN-- 252
QY 64 CGHGTG--IDGIGSFSCDCRSGMEGRFCQREVSFLNCSLDNG----- 103
DB 253 --GCTCHLIYATGTTVACAPPGFAGRLCNIEPD-ERCFLNGOTGYRGVASTASGSLCLA 309
QY 104 -----GCTHYCL-----EYGV-----RRCSC 120
DB 310 WNSDLLYOELHVDVSGAALLGLGPHAYCRNPNDERPMVCYVVDASLSMEYCRLEACES 369
QY 121 APGYKLGDDLLQCHPAVPCGCRPMKMEKKRSHLKRDEQEDQVDPRLIDGKMTREGD 180
DB 370 LTRVQSLPDLATLPEPASPGROACGRHKRKTFLR-----PRIGSSSLPS 418
QY 181 SPW--QVVLDSKKKLCAGAVLIHPSWVLTAAHCMDSS--KLLVRLGEYDLRMEKWE 235
DB 419 HPMLAIVIGDS---FCAGSLVHTCWMVSAHCFSHSPRDSVSVLQGHFNRRTDVT 474
QY 236 LDLDIKEYFVHPNYSK-STTDNDIALHLAQP-----ATLSQTIYVPCIPDGLARELNG 290
DB 475 QTFGEIKYIPYTLVSFNPBDHLVLRKKGRCATRSQFVQPICLPEPG---STP 530
QY 291 AGOETLVGMGY-----HSSREKAKRNTFVLFIKIPVPHNECS--EVMNNVSE 341
DB 531 AGHKQIAGMGLDENNSGYSSSLRA-----LVPLVAHKCSSPEVYGVADISP 579
QY 342 NMLCAGILGRDQACGDSGGPMVASFHGTWFLVGLVSWGSGGLIHHYVYTKYSRIYD 401
DB 580 NMLCAGYFDCKSDACQDGSQGPLACEKNGVAYLIGIISWDCGRLHKRGVYTVYAVYD 639
QY 402 WIGHIRDKAPQKSNAP 419
DB 640 WINDRIR---PPRLVAP 654

RESULT 89
US-08-330-978-1
/ Sequence 1, Application US/08330978
/ Patent No. 5589571
/ GENERAL INFORMATION:
/ APPLICANT: King, Robert
/ TITLE OF INVENTION: PROCESS FOR PRODUCTION OF INHIBITED
/ TITLE OF INVENTION: FORMS OF ACTIVATED BLOOD FACTORS
/ NUMBER OF SEQUENCES: 4
/ CORRESPONDENCE ADDRESS:
/ ADDRESSEE: Morrison & Foerster
/ STREET: 2000 Pennsylvania Avenue, NW
/ CITY: Washington
/ STATE: DC
/ COUNTRY: USA
/ ZIP: 20006-1888
/ COMPUTER READABLE FORM:
/ MEDIUM TYPE: Floppy disk
/ COMPUTER: IBM PC compatible
/ OPERATING SYSTEM: PC-DOS/MS-DOS
/ SOFTWARE: PatentIn Release #1.0, Version #1.30

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QY 385 GLHNHYGVYTKVSRVLDWTHGHRDKAPQ-KSNAP 419  
DB 262 ARKXKYGYTKVTAFLKWDISWKTRGLPKAKSHAP 297

## RESULT 91

US-08-484-558-1  
Sequence 1, Application US/08484558  
Patent No. 560223  
GENERAL INFORMATION:  
APPLICANT: King, Robert  
TITLE OF INVENTION: PROCESS FOR PRODUCTION OF INHIBITED  
TITLE OF INVENTION: FORMS OF ACTIVATED BLOOD FACTORS  
NUMBER OF SEQUENCES: 4  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Morrison & Foerster  
STREET: 2000 Pennsylvania Avenue, NW  
CITY: Washington  
STATE: DC  
COUNTRY: USA  
ZIP: 20006-1888  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/484,558  
FILING DATE: 07-JUN-1995  
CLASSIFICATION: 530  
ATTORNEY/AGENT INFORMATION:  
NAME: Murashige, Kate H.  
REGISTRATION NUMBER: 29,959  
REFERENCE/DOCKET NUMBER: 2803-0007.02  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (202)887-1500  
TELEFAX: (202)822-0168  
TELEX: 90-4030 MRSNFORSMH  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 306 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
FEATURE:  
NAME/KEY: Disulfide-bond  
LOCATION: 59..64  
FEATURE:  
NAME/KEY: Disulfide-bond  
LOCATION: 79..95  
FEATURE:  
NAME/KEY: Disulfide-bond  
LOCATION: 160  
OTHER INFORMATION: /note= "Disulfide linkage to  
OTHER INFORMATION: residue 132 of SEQ ID NO:2"  
FEATURE:  
NAME/KEY: Disulfide-bond  
LOCATION: 208..222  
FEATURE:  
NAME/KEY: Disulfide-bond  
LOCATION: 233..261  
US-08-484-558-1

Query Match 20.2%; Score 469; DB 1; Length 306;  
Best Local Similarity 34.8%; Pred. No. 2,6e-32;  
Matches 96; Conservative 60; Mismatches 98; Indels 22; Gaps 5;

QY 159 TEDQEDQVD-----PRLIDGKTRRQSPQVVLDSKKKLAGAVLHPSM 205  
DB 29 TENFPLDLPNQTPRGDNNLRLVIGGQCKDECPWQALLINENBGFGGTILSEFY 88  
QY 206 VLTARHNDSESKLLVRLGEYDRLRWEKVELDLDIKVFFHRYKSTTNDILHLAQ 265

DB 89 ILPAHCLYQAKREKRVVGDRTNQEGBGEAVHEVVIKHNRFKETYFDIAVLRLKT 148  
QY 266 PATLSCTTVPICLPDSCGLARELNQAGET-LVTGNGYSSREKARNTFTVNIKIP 324  
DB 149 PIFRKNVAPACLPBERMAESTL--MTQKTGIVSGFGRTHRGQRSTR-----LKNLEVP 201  
QY 325 VVPHNECSFVSNMNVSENNLCAGILGDRODACEDSGCPMVASPHGTWFLVGLVSGEGC 384  
DB 202 YVDRNSCKLSSFTITQNMFCAGYTQKQBDKCGDSGCHVRFMDIYFTYGVIVSGEGC 261

## RESULT 92

US-08-774-592-1  
Sequence 1, Application US/08774592  
Patent No. 5770699  
GENERAL INFORMATION:  
APPLICANT: King, Robert  
TITLE OF INVENTION: PROCESS FOR PRODUCTION OF INHIBITED  
TITLE OF INVENTION: FORMS OF ACTIVATED BLOOD FACTORS  
NUMBER OF SEQUENCES: 4  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Morrison & Foerster  
STREET: 2000 Pennsylvania Avenue, NW  
CITY: Washington  
STATE: DC  
COUNTRY: USA  
ZIP: 20006-1888  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/774,592  
FILING DATE: 30-Dec-1996  
CLASSIFICATION: 530  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/330,978  
FILING DATE: 28-OCT-1994  
CLASSIFICATION: 530  
APPLICATION NUMBER: US 08/484,558  
FILING DATE: 07-JUN-1995  
ATTORNEY/AGENT INFORMATION:  
NAME: Murashige, Kate H.  
REGISTRATION NUMBER: 29,959  
REFERENCE/DOCKET NUMBER: 2803-0007.02  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (202)887-1500  
TELEFAX: (202)822-0168  
TELEX: 90-4030 MRSNFORSMH  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 306 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
FEATURE:  
NAME/KEY: Disulfide-bond  
LOCATION: 59..64  
FEATURE:  
NAME/KEY: Disulfide-bond  
LOCATION: 79..95  
FEATURE:  
NAME/KEY: Disulfide-bond  
LOCATION: 160  
OTHER INFORMATION: /note= "Disulfide linkage to  
OTHER INFORMATION: residue 132 of SEQ ID NO:2"  
FEATURE:  
NAME/KEY: Disulfide-bond



RESULT 96  
 US-08-484-558-3  
 ; Sequence 3, Application US/08484558  
 ; Patent No. 5602233  
 ; GENERAL INFORMATION:  
 ; APPLICANT: King, Robert  
 ; TITLE OF INVENTION: PROCESS FOR PRODUCTION OF INHIBITED  
 ; TITLE OF INVENTION: FORMS OF ACTIVATED BLOOD FACTORS  
 ; NUMBER OF SEQUENCES: 4  
 ; CORRESPONDENCE ADDRESS:  
 ; ADDRESSEE: Morrilson & Foerster



Db 61 QEEGGEAVHEVEVYIKHNRFTKETYPDIAVLRLKTPIDERNVAPACLPERDWAESTL- 119  
QY 290 QAGQET-LVTGWSGHSREKAKRRTFVNFITKIIVPHNECEVSMNVSNNLCAIGI 348  
Db 120 -MTQKGIIVSGFRTHKGRQSTR-----LKMLEVPYDRNSCKLSSFFITQNMFCAGY 173  
QY 349 LGRDQACGDSGSPMVASFHGTWFLVGLVSMGEGCGLLHNYGVYTVSRYLDMJHGHIR 408  
Db 174 DTQEDACQDSGSPHVTFRKDTIVTGIIVSMGEGCARKGKGIYTVTAFLKMDRSMK 233  
QY 409 DKEAPQ-KSNAP 419  
Db 234 TRGLPRAKSHAP 245  
RESULT 98  
US-08-330-978-4  
; Sequence 4, Application US/08330978  
; Patent No. 5589571  
; GENERAL INFORMATION:  
; APPLICANT: King, Robert  
; TITLE OF INVENTION: PROCESS FOR PRODUCTION OF INHIBITED  
; NUMBER OF SEQUENCES: 4  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Morrison & Foerster  
; STREET: 2000 Pennsylvania Avenue, NW  
; CITY: Washington  
; STATE: DC  
; COUNTRY: USA  
; ZIP: 20006-1888  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent In Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/330,978  
; FILING DATE: 28-OCT-1994  
; CLASSIFICATION: 530  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 08/484,558  
; FILING DATE: 07-JUN-1995  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Murashige, Kate H.  
; REGISTRATION NUMBER: 29,959  
; REFERENCE/DOCKET NUMBER: 2803-0007.02  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (202)887-1500  
; TELEFAX: (202)822-0168  
; TELEX: 90-4030 MRSNFOERSWSH  
; INFORMATION FOR SEQ ID NO: 4:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 241 amino acids  
; TYPE: amino acid  
; STRANDEDNESS: single  
; TOPOLOGY: linear  
; FEATURE:  
; NAME/KEY: Disulfide-bond  
; LOCATION: 7..12  
; FEATURE:  
; NAME/KEY: Disulfide-bond  
; LOCATION: 27..43  
; FEATURE:  
; NAME/KEY: Disulfide-bond  
; LOCATION: 108  
; OTHER INFORMATION: /note= "Disulfide linkage with  
; OTHER INFORMATION: residue 132 of SEQ ID NO:2"  
; FEATURE:  
; NAME/KEY: Disulfide-bond  
; LOCATION: 156..170  
; FEATURE:  
; NAME/KEY: Disulfide-bond

; LOCATION: 181..209  
US-08-330-978-4  
Query Match 19.6%; Score 456; DB 1; Length 241;  
Best Local Similarity 35.4%; Pred. No. 2,5e-31;  
Matches 87; Conservative 58; Mismatches 93; Indels 8; Gaps 3;  
QY 170 LIDKMTIRGDSPPQVAILDSKKLACGAVLIHPSWLTNAHMDSEKXLIIVLAGYDUR 229  
Db 1 IVGGQECXGDECPQALLINEBPGCGTILTSFYITLAAHCLQARFVRVGRBNT 60  
QY 230 RMEKWEIDDIKEVFPVHNSKSTTDNDIALHQAQATLSQTVITLPSGLAEIRLN 289  
Db 61 QEEGGEAVHEVEVYIKHNRFTKETYPDIAVLRLKTPIDERNVAPACLPERDWAESTL- 119  
QY 290 QAGQET-LVTGWSGHSREKAKRRTFVNFITKIIVPHNECEVSMNVSNNLCAIGI 348  
Db 120 -MTQKGIIVSGFRTHKGRQSTR-----LKMLEVPYDRNSCKLSSFFITQNMFCAGY 173  
QY 349 LGRDQACGDSGSPMVASFHGTWFLVGLVSMGEGCGLLHNYGVYTVSRYLDMJHGHIR 408  
Db 174 DTQEDACQDSGSPHVTFRKDTIVTGIIVSMGEGCARKGKGIYTVTAFLKMDRSMK 233  
QY 409 DKEAPQ 414  
Db 234 TRGLPFX 239  
RESULT 99  
US-08-474-042-4  
; Sequence 4, Application US/08474042  
; Patent No. 5589572  
; GENERAL INFORMATION:  
; APPLICANT: King, Robert  
; TITLE OF INVENTION: PROCESS FOR PRODUCTION OF INHIBITED  
; NUMBER OF SEQUENCES: 4  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Morrison & Foerster  
; STREET: 2000 Pennsylvania Avenue, NW  
; CITY: Washington  
; STATE: DC  
; COUNTRY: USA  
; ZIP: 20006-1888  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent In Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/474,042  
; FILING DATE: 07-JUN-1995  
; CLASSIFICATION: 530  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 08/484,558  
; FILING DATE: 07-JUN-1995  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Murashige, Kate H.  
; REGISTRATION NUMBER: 29,959  
; REFERENCE/DOCKET NUMBER: 2803-0007.02  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (202)887-1500  
; TELEFAX: (202)822-0168  
; TELEX: 90-4030 MRSNFOERSWSH  
; INFORMATION FOR SEQ ID NO: 4:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 241 amino acids  
; TYPE: amino acid  
; STRANDEDNESS: single  
; TOPOLOGY: linear  
; FEATURE:  
; NAME/KEY: Disulfide-bond  
; LOCATION: 7..12

FEATURE:  
NAME/KEY: Disulfide-bond  
LOCATION: 27..43  
FEATURE:  
NAME/KEY: Disulfide-bond  
LOCATION: 108  
OTHER INFORMATION: /note="Disulfide linkage with  
OTHER INFORMATION: residue 132 of SEQ ID NO:2"  
FEATURE:  
NAME/KEY: Disulfide-bond  
LOCATION: 156..170  
FEATURE:  
NAME/KEY: Disulfide-bond  
LOCATION: 181..209  
US-08-474-042-4

Query Match 19.6%; Score 456; DB 1; Length 241;  
Best Local Similarity 35.4%; Pred. No. 2.5e-31;  
Matches 87; Conservative 58; Mismatches 93; Indels 8; Gaps 3;

QY 170 LIDGKTRRSDSPQVVLIDSKKKLACGAVLHPSWVLTAAHCHDESKLVRLEGEYDLR 229  
DB 1 IVGGQCKDECEPCWQALINENEGFCGTLISEFYILTAHCLYQAKRKYRVDNRTTE 60  
QY 230 RMEKELDDIXEVFVHNYSKSTINDIALHLAQATLSQTVIPCLPDSGLARELN 289  
DB 61 QEEGGEAVHEVEVILKHNRTKETYDPAVLRLKPTIFPMNVAPACLPEDMAESTL- 119  
QY 290 QAGQET-LVTGNGYHSSREKAKNRTFVNLTKIPVPHNECEVSNMVSNNLCAGI 348  
DB 120 -MTQKTGIVSGFRTHKRGQSTR-----LKMLEVYVDNSCKLSSFTITQNFCAGY 173  
QY 349 LGDRDACEGDSGPGWVASFHGTWFLVGLVSGEGCLLHNYGVTVKSYLDIMHGHIR 408  
DB 174 DTKQEDACQDSGSGPVTRFKDTYFVGLVSGEGCAKRGKGIYTVTAFLKWDKSMK 233  
QY 409 DKEAPQ 414  
DB 234 TRGLPK 239

RESULT 100  
US-08-484-558-4  
Sequence 4, Application US/08484558  
Patent No. 560223  
GENERAL INFORMATION:  
APPLICANT: King, Robert  
TITLE OF INVENTION: PROCESS FOR PRODUCTION OF INHIBITED  
TITLE OF INVENTION: FORMS OF ACTIVATED BLOOD FACTORS  
NUMBER OF SEQUENCES: 4  
CORRESPONDENCE ADDRESS:  
ADDRESSER: Morrison & Foerster  
STREET: 2000 Pennsylvania Avenue, NW  
CITY: Washington  
STATE: DC  
COUNTRY: USA  
ZIP: 20006-1888  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Releasee #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/484,558  
FILING DATE: 07-JUN-1995  
CLASSIFICATION: 530  
ATTORNEY/AGENT INFORMATION:  
NAME: Muraehige, Kate H.  
REGISTRATION NUMBER: 29,959  
REFERENCE/DOCKET NUMBER: 2803-0007.02  
TELEPHONE: (202) 887-1500  
TELEFAX: (202) 822-0168

TELEX: 90-4030 MRNFORSMH  
INFORMATION FOR SEQ ID NO: 4:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 241 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
FEATURE:  
NAME/KEY: Disulfide-bond  
LOCATION: 7..12  
FEATURE:  
NAME/KEY: Disulfide-bond  
LOCATION: 27..43  
FEATURE:  
NAME/KEY: Disulfide-bond  
LOCATION: 108  
OTHER INFORMATION: /note="Disulfide linkage with  
OTHER INFORMATION: residue 132 of SEQ ID NO:2"  
FEATURE:  
NAME/KEY: Disulfide-bond  
LOCATION: 156..170  
FEATURE:  
NAME/KEY: Disulfide-bond  
LOCATION: 181..209  
US-08-484-558-4

Query Match 19.6%; Score 456; DB 1; Length 241;  
Best Local Similarity 35.4%; Pred. No. 2.5e-31;  
Matches 87; Conservative 58; Mismatches 93; Indels 8; Gaps 3;

QY 170 LIDGKTRRSDSPQVVLIDSKKKLACGAVLHPSWVLTAAHCHDESKLVRLEGEYDLR 229  
DB 1 IVGGQCKDECEPCWQALINENEGFCGTLISEFYILTAHCLYQAKRKYRVDNRTTE 60  
QY 230 RMEKELDDIXEVFVHNYSKSTINDIALHLAQATLSQTVIPCLPDSGLARELN 289  
DB 61 QEEGGEAVHEVEVILKHNRTKETYDPAVLRLKPTIFPMNVAPACLPEDMAESTL- 119  
QY 290 QAGQET-LVTGNGYHSSREKAKNRTFVNLTKIPVPHNECEVSNMVSNNLCAGI 348  
DB 120 -MTQKTGIVSGFRTHKRGQSTR-----LKMLEVYVDNSCKLSSFTITQNFCAGY 173  
QY 349 LGDRDACEGDSGPGWVASFHGTWFLVGLVSGEGCLLHNYGVTVKSYLDIMHGHIR 408  
DB 174 DTKQEDACQDSGSGPVTRFKDTYFVGLVSGEGCAKRGKGIYTVTAFLKWDKSMK 233  
QY 409 DKEAPQ 414  
DB 234 TRGLPK 239

RESULT 101  
US-08-774-592-4  
Sequence 4, Application US/08774592  
Patent No. 570699  
GENERAL INFORMATION:  
APPLICANT: King, Robert  
TITLE OF INVENTION: PROCESS FOR PRODUCTION OF INHIBITED  
TITLE OF INVENTION: FORMS OF ACTIVATED BLOOD FACTORS  
NUMBER OF SEQUENCES: 4  
CORRESPONDENCE ADDRESS:  
ADDRESSER: Morrison & Foerster  
STREET: 2000 Pennsylvania Avenue, NW  
CITY: Washington  
STATE: DC  
COUNTRY: USA  
ZIP: 20006-1888  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Releasee #1.0, Version #1.30  
CURRENT APPLICATION DATA:



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/ APPLICATION NUMBER: US/08/774,592
/ FILING DATE: 30-Dec-1996
/ CLASSIFICATION: 530
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: US 08/330,978
/ FILING DATE: 28-Oct-1994
/ CLASSIFICATION: 530
/ APPLICATION NUMBER: US 08/484,558
/ FILING DATE: 07-Jun-1995
/ ATTORNEY/AGENT INFORMATION:
/ NAME: Murashige, Kate H.
/ REGISTRATION NUMBER: 29,959
/ REFERENCE/DOCKET NUMBER: 2803-0007.02
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: (202)887-1500
/ TELEFAX: (202)822-0168
/ TELEX: 90-4030 MRSNFOERSWSH
/ INFORMATION FOR SEQ ID NO: 4:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 241 amino acids
/ TYPE: amino acid
/ STRANDEDNESS: single
/ TOPOLOGY: linear
/ FEATURE:
/ NAME/KEY: Disulfide-bond
/ LOCATION: 7..12
/ FEATURE:
/ NAME/KEY: Disulfide-bond
/ LOCATION: 27..43
/ FEATURE:
/ NAME/KEY: Disulfide-bond
/ LOCATION: 108
/ OTHER INFORMATION: /note="Disulfide linkage with
/ OTHER INFORMATION: residue 132 of SEQ ID NO:2"
/ FEATURE:
/ NAME/KEY: Disulfide-bond
/ LOCATION: 156..170
/ NAME/KEY: Disulfide-bond
/ LOCATION: 181..209
/ US-08-774-592-4

Query Match      19.6%; Score 456; DB 1; Length 241;
Best Local Similarity 35.4%; Pred. No. 2.5e-31;
Matches 87; Conservative 58; Mismatches 93; Indels 8; Gaps 3;

QY      170 LINGKTRGDSFPMQVVLDSKKKLAGAVLIHPSWVLTAKCMDESKLLVRLGEYDNR 229
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB      1 IVGQCKXGDCPCWQALLINEENEGCGGTLISFPYLLTAHCLVQARGFVRVGRNTE 60
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

QY      230 RWEKWELELDIKEVHPVHNSKSTNDIALHLAQPATLSQTIPICLPDSGLAREIN 289
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB      61 QEEGGAHVHVEVAVTKNRFTKTYFDIAYLRKTIITPRMVAAPCLPERDMASLT- 119
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

QY      290 QAGQET-LVTGWGSHSSREKARNRTFVNLFIKIPVPHNECEVSNMVSNNLCAGI 348
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB      120 -MTCGTGIVSGFGRTHKXQSTR-----LKMLEVPYVDNNSKLSSEFIITQWMCAGY 173
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

QY      349 LGRDQACGSDGCGPMVASPHGTWFLVGLVSGEGCLLJNHYGVVTKYSRYLDMIGHNR 408
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB      174 DTKQEDACQSDGSGPHVTRFDYITVGLIVSGEGCARKKKIGIYKVTALFKMLDRSMK 233
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

QY      409 DKEAPQ 414
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB      234 TRGLPX 239

RESULT 102
US-08-558-269-10
; Sequence 10, Application US/08558269
; Patent No. 5961973
; GENERAL INFORMATION:
; APPLICANT: Crea, Roberto
```

```

/ TITLE OF INVENTION: PATHOGEN-TARGETED BIOCATALYSTS
/ NUMBER OF SEQUENCES: 26
/ CORRESPONDENCE ADDRESS:
/ ADDRESSEE: LAHIVE & COCKFIELD
/ STREET: 60 State Street
/ CITY: Boston
/ STATE: MA
/ COUNTRY: USA
/ ZIP: 02109
/ COMPUTER READABLE FORM:
/ MEDIUM TYPE: floppy disk
/ COMPUTER: IBM PC compatible
/ OPERATING SYSTEM: PC-DOS/MS-DOS
/ SOFTWARE: ASCII (text)
/ CURRENT APPLICATION DATA:
/ APPLICATION NUMBER: US/08/558,269
/ FILING DATE: 13-NOV-1995
/ CLASSIFICATION: 435
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER: US 07/847,800
/ FILING DATE: 06-MAR-1992
/ ATTORNEY/AGENT INFORMATION:
/ NAME: Vincent, Matthew P.
/ REGISTRATION NUMBER: 36,709
/ REFERENCE/DOCKET NUMBER: CRI-001CF2
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: (617) 227-7400
/ TELEFAX: (617) 227-5941
/ INFORMATION FOR SEQ ID NO: 10:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 376 amino acids
/ TYPE: amino acid
/ TOPOLOGY: linear
/ MOLECULE TYPE: protein
/ US-08-558-269-10

Query Match      19.3%; Score 448; DB 2; Length 376;
Best Local Similarity 36.7%; Pred. No. 2e-30;
Matches 104; Conservative 45; Mismatches 96; Indels 38; Gaps 10;

QY      158 DTEQDQDQD-----PRLIDGKTRGDSFPMQVVL-DSKKKLAG 196
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB      86 EVEDQKEBQVQLVFEGLTNSDTHLHGSLTIVEGSDALIGSPMQVMLTRKSPQGLLC 145
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

QY      197 GAVLIHPSWVLTAKCM-----DES---KKLIVRLGEYDNRNEK-WELLDIYEVVHP 247
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB      146 GASLISPRWVLTAKCMCLLYPMDKNFTENDLIVRLGHSRTYERNIEKISMLEKIYIHP 205
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

QY      248 NYS-KSTTNDIALHLAQPATLSQTIPICLPDSGLAREINQAGQETVLTGWG-YHSS 305
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB      206 RYNNRENTLRDIALMKKKPVAFSDYIHPVCLPDETA-ASLQAGYKRYVGMNLIKET 264
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

QY      306 REKAKKRNRTFVNLFIKIPVPHNECEVSNMVSNNLCAGI--GDRODAGEGDSG 362
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB      265 WTAVNGKQGSYLVQVNLPIYERPVCKDSTRIRITDMMFCAGKPGEGRGAGEGDSG 324
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

QY      363 PMV--ASFHGTWFLVGLVSGEGCLLJNHYGVVTKYSRYLDWI 403
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB      325 PFVVKSPFNRMVQMGIVSGEGCDRDKYGYTHVRLKMWI 367
      : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

RESULT 103
US-09-410-882-10
; Sequence 10, Application US/09410882
; Patent No. 6287561
; GENERAL INFORMATION:
; APPLICANT: Crea, Roberto
; TITLE OF INVENTION: PATHOGEN-TARGETED BIOCATALYSTS
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: LAHIVE & COCKFIELD
; STREET: 60 State Street
; CITY: Boston
```



```

/ APPLICANT: STEWART, KENT D.
/ TITLE OF INVENTION: NOVEL SERINE PROTEASE REAGENTS
/ TITLE OF INVENTION: AND METHODS USEFUL FOR DETECTING AND TREATING DISEASES
/ TITLE OF INVENTION: OF THE PROSTATE
/ NUMBER OF SEQUENCES: 76
/ CORRESPONDENCE ADDRESS:
/ ADDRESS: Abbott Laboratories
/ STREET: 100 Abbott Park Road
/ CITY: Abbott Park
/ STATE: IL
/ COUNTRY: USA
/ ZIP: 60064-3500
/ COMPUTER READABLE FORM:
/ MEDIUM TYPE: Diskette
/ OPERATING SYSTEM: DOS
/ SOFTWARE: FastSeq for Windows Version 2.0
/ CURRENT APPLICATION DATA:
/ APPLICATION NUMBER: US/08/944,483
/ FILING DATE:
/ CLASSIFICATION: 424
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER:
/ FILING DATE:
/ ATTORNEY/AGENT INFORMATION:
/ NAME: Becker, Cheryl L.
/ REGISTRATION NUMBER: 35,441
/ REFERENCE/DOCKET NUMBER: 6183.US.01
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: 847/935-1729
/ TELEFAX: 847/938-2623
/ TELEX:
/ INFORMATION FOR SEQ ID NO: 49:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 247 amino acids
/ TYPE: amino acid
/ STRANDEDNESS: single
/ TOPOLOGY: linear
/ MOLECULE TYPE: No. 6232456e
/ US-08-944-483-49

```

```

Query Match          19.0%; Score 441; DB 3; Length 247;
Best Local Similarity 35.3%; Pred. No. 4,9e-30;
Matches 89; Conservative 57; Mismatches 94; Indels 12; Gaps 5;

QY 170 LIDGKTRRGSFQVVLDSKKKLAAGAVLIHPSVLTAAHCMDSEKLLVRLGEYDNR 223
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 1 IVGGQCKDCEPCWQALLINENEGFCGGLISEFYLTAAQLYQAKRF---EGDRNTE 57

QY 230 RMEKWELEDDIKEVFNHPNYSKSTNDNDIALHLAOPATLSQTIPICLPDSGLARELN 289
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 58 QEEGGAHVHVAIVTKNRFTKETTYPDIAVRLKTIPTIRNMVAPACLPDRMASTL- 116

QY 290 QAGQET-LVTGMGHHSSREKARRNRTFVLFNFIKIPVPHNECEVMNWSNMUCAGI 348
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 117 -MDCKTGIVSGRFRHEKRGQSTR-----LKKLEVPYVDNNSCKSSFFITQMFCAQY 170

QY 349 LGDRDAGCGDSGGMWASFHGTWFLVGVSGEGCLLNVGVTVTKYSRLDPIHGHTR 408
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 171 DTKQDCAQDSGGGHVTRFDYTYTGVIGVSGCARKKRGYITXVATLAKMDRSMK 230

QY 409 DKEAPQ-KSWAP 419
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 231 TRGLPRAKSHAP 242

```

```

RESULT 106
US-08-148-910-1
/ Sequence 1, Application US/08148910
/ Patent No. 546593
/ GENERAL INFORMATION:
/ APPLICANT: Takeshi SHIMOMURA et al.

```

```

/ TITLE OF INVENTION: No. 546593e1 Protein and Gene Encoding Said Protein
/ NUMBER OF SEQUENCES: 14
/ CORRESPONDENCE ADDRESS:
/ ADDRESS: Mendenhall, Lind & Ponack
/ STREET: 805 Fifteenth Street, N.W., #700
/ CITY: Washington
/ STATE: D.C.
/ COUNTRY: U.S.A.
/ ZIP: 20005
/ COMPUTER READABLE FORM:
/ MEDIUM TYPE: Diskette, 5.25 inch,
/ MEDIUM TYPE: 500 Kb Storage
/ COMPUTER: IBM Compatible
/ OPERATING SYSTEM: MS-DOS
/ SOFTWARE: Wordperfect
/ CURRENT APPLICATION DATA:
/ APPLICATION NUMBER: US/08/148,910
/ FILING DATE: No. 546593eember 5, 1993
/ CLASSIFICATION: 435
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER:
/ FILING DATE:
/ ATTORNEY/AGENT INFORMATION:
/ NAME: Warren M. Cheek, Jr.
/ REGISTRATION NUMBER: 33,367
/ REFERENCE/DOCKET NUMBER:
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: 202-371-8850
/ TELEFAX: 202-371-8856
/ TELEX:
/ INFORMATION FOR SEQ ID NO: 1:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 300 amino acids
/ TYPE: amino acid
/ STRANDEDNESS: single
/ TOPOLOGY: linear
/ MOLECULE TYPE: protein
/ ORIGINAL SOURCE:
/ ORGANISM: human
/ US-08-148-910-1

```

```

Query Match          18.8%; Score 437; DB 1; Length 300;
Best Local Similarity 33.5%; Pred. No. 1.4e-29;
Matches 111; Conservative 49; Mismatches 115; Indels 56; Gaps 12;

QY 108 YCLEEVMGRSCAPGYGLGDDLLQCHPAVKKPCGRRPMKMEKSSHLKRPTEQDEQD 167
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 6 YCRLEA-----CSLRRVQLSPDLATLPPRASPGRQAGRRHKKRTPLR----- 50

QY 168 PRLIDGKTRRGSFQVVLDSKKKLAAGAVLIHPSVLTAAHCMDSEKLLVRLGEYDNR 222
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 51 PRIGGSSSLPGSHFWLMAIYIGDS---FCAGSLVTCWVWASAACTSHSPRDSVSIV 106

QY 222 LGEDVLRMKWELEDDIKEVFNHPNYSKSTNDNDIALHLAOPATLSQTIPICLPDSGLARELN 277
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 107 LGQHFNRITDVTQTFGEIKTIPYTIKSVFNSDHDVLIRLKKDRKATRSQFQVPTIC 166

QY 278 LPDSGLARELNAGQETLVTGMGY-----HSSREKARRNRTFVLFNFIKIPVPHNE 330
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 167 LPRG-----STFPAHGKQIAGWGHLDENVSGSSILREA-----LVPLVADHK 211

QY 331 GS-EVSNMNVSENMUCAGIIGDRDAGCGDSGGMWASFHGTWFLVGVSGEGCLLNV 388
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 212 CSSPEVYAGADISPMMLCAGYFDCSKSDACQDSGGGLACERGVAYIYLISWGDGCRHL 271

QY 389 NYGVTVTSRYLDMTHGHIRDXEAPQKSWAP 419
   : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 272 KPQVTVRVANVDMINDRIR---PPRLVAP 299

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RESULT 107
US-08-448-937A-1
/ Sequence 1, Application US/08448937A

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Patent No. 5677164

GENERAL INFORMATION:

APPLICANT: Takeshi SHIMOMURA et al.

TITLE OF INVENTION: No. 5677164el Protein and Gene Encoding Said Protein

NUMBER OF SEQUENCES: 14

CORRESPONDENCE ADDRESS:

ADDRESSEE: Wenderoth, Lind & Ponack

STREET: 805 Fifteenth Street, N.W., #700

CITY: Washington

STATE: D.C.

COUNTRY: U.S.A.

ZIP: 20005

COMPUTER READABLE FORM:

MEDIUM TYPE: Diskette, 5.25 inch,

COMPUTER: IBM Compatible

OPERATING SYSTEM: MS-DOS

SOFTWARE: Wordperfect

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/448,937A

FILING DATE: May 24, 1995

CLASSIFICATION: 435

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/148,910

FILING DATE: No. 5677164member 5, 1993

ATTORNEY/AGENT INFORMATION:

NAME: Warren M. Cheek, Jr.

REGISTRATION NUMBER: 33,367

REFERENCE/DOCKET NUMBER:

TELECOMMUNICATION INFORMATION:

TELEPHONE: 202-371-8850

TELEFAX: 202-371-8856

TRIEUX:

INFORMATION FOR SEQ ID NO: 1:

SEQUENCE CHARACTERISTICS:

LENGTH: 300 amino acids

TYPE: amino acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

ORIGINAL SOURCE:

ORGANISM: human

US-08-448-937A-1

Query Match 18.8%; Score 437; DB 1; Length 300;

Best Local Similarity 33.5%; Pred. No. 1.4e-29;

Matches 111; Conservative 49; Mismatches 115; Indels 56; Gaps 12;

```

QY 108 YLLEEVGNRSCAPGYKLGDTLLQCHPAVKFCGRPMKMKRSHLRDTEDEQVD 167
DB 6 YCRLEA-----CESLTVQQLSPDLATLPEPASFGROACGRHKKRTFLR----- 50
QY 168 PRLIDGKMTRRGDSPP--QVVLDSKKKLAACGAVLIHPSWLTAAHGMDS---KKLLNR 222
DB 51 PRLIGSSSLPGSHPMALVITGDS---FCAGSLVHTCWVWVAHCFSSHPRDSVV 106
QY 223 LGEYDLRRWEKMLDLDIKFVFNHNSK-STDNNDIALHLAOP---ATLSQTVIC 277
DB 107 LQGHFNRTTIVTGTGIEKYIPYLVSVNPSDHDVLIRLKKKGRCKTSSQVQCIC 166
QY 278 LDPGSLAERLINQAGETLVGTWGY-----HSSREKAKRNTFVLNFIKIPVPPNE 330
DB 167 LPEPG-----STFPAGHKQIAGWGHLDENVSSYSSSLREA-----LWPLVAHK 211
QY 331 CS--EYMSNMVSENMICAGILGRDACEGDSGGPVVASFHGTPIVGLVSGEGGLH 388
DB 212 CSSPEVYAGDISPMMLCAGYFDCKSDACQDGGSPACCKNVAILGITISWGDGGLH 271
QY 389 NGVYTKVSRYLDMIHGHIRDKKAPQKSWAP 419
DB 272 KRGVTVRVANVDMINDRIR---PRLRLVA 299

```

RESULT 108

US-09-004-731-30

Sequence 30. Application US/09004731

Patent No. 617258

GENERAL INFORMATION:

APPLICANT: W. Hunter, Shirley

ADDRESSEE: Stiegler, Gary

STREET: Gaines, Patrick J.

TITLE OF INVENTION: FLEA PROTEASE PROTEINS, NUCLEIC ACID

MOLECULES AND USES THEREOF

NUMBER OF SEQUENCES: 103

CORRESPONDENCE ADDRESS:

ADDRESSEE: Sheridan Ross P.C.

STREET: 1700 Lincoln Street, Suite 3500

CITY: Denver

STATE: Colorado

COUNTRY: USA

ZIP: 80203

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/004,731

FILING DATE:

CLASSIFICATION:

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US/08/749,699

FILING DATE:

ATTORNEY/AGENT INFORMATION:

NAME: Connell, Gary J.

REGISTRATION NUMBER: 32,020

REFERENCE/DOCKET NUMBER: 2618-25-C3

TELECOMMUNICATION INFORMATION:

TELEPHONE: (303) 863-9700

TELEFAX: (303) 863-0223

INFORMATION FOR SEQ ID NO: 30:

SEQUENCE CHARACTERISTICS:

LENGTH: 400 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: protein

US-09-004-731-30

Query Match 18.7%; Score 435; DB 3; Length 400;

Best Local Similarity 33.0%; Pred. No. 2.9e-29;

Matches 108; Conservative 45; Mismatches 135; Indels 50; Gaps 10;

```

QY 80 CRSGMEGRPCQREVSTFNLCSLDNGCCTHYCLEBYGNRSCAPGYKLGDTLLQCHPAVNF 139
DB 94 CRKGRERECGLSIS--CYLGGRPRDLCSGGMV---SCVDRDIRPFPQHGALONA 147
QY 140 PCGRPMKMKRSHLRDTEDEQVDPRLLIDGKMTRRGDSPPQVVLDS---KKQLAC 196
DB 148 TCSELTRSN-----RIVGSHSTGSHPMALISGLSKKLS 188
QY 197 GAVLIHPSWLTAAHGM--DESKLVLVGEYDLR---RWEKMLDLDIKFVFNHNS 250
DB 189 GALVSDRWVITAAHCAVATTPNSNLKVLGEWVDVDRHRLNHEEVALEREE--VHPSYS 246
QY 251 KSTTNDIALHLAQPATLSQTVIPLCLPDSGLAERLINQAGETLVGTWGYSSRPEXA 310
DB 247 PTDERRDVALVYLDRTVIFKQHLIPVCLP-----HKMKLAGKATVAGWG---RTRRG 297
QY 311 KRRNTFVLNFIKIPVPPNECSVEM-----SNMVSNNMLCAGILGRDACEGDSGGPVV 365
DB 298 QSTVPAVLQVVEVETINERCCMRPAAGRRETIHDFVLCAGYKSGDSQGGSGGPLI 357
QY 366 ASFHGTWFLVGLVSGEGGLLHNYGVYTKVSRYLDM 403
DB 358 MQIEGRRTIVGLVSWIGICGRELPGVYNTNIOKTEPMI 395

```

## RESULT 109

US-09-004-731-33

Sequence 33, Application US/09004731

Patent No. 6177258

GENERAL INFORMATION:

APPLICANT: Wu Hunter, Shirley

APPLICANT: Stiegler, Gary

TITLE OF INVENTION: FLEA PROTEASE PROTEINS, NUCLEIC ACID

TITLE OF INVENTION: MOLECULES AND USES THEREOF

NUMBER OF SEQUENCES: 103

CORRESPONDENCE ADDRESS:

ADDRESSEE: Sheridan Ross P.C.

STREET: 1700 Lincoln Street, Suite 3500

CITY: Denver

STATE: Colorado

COUNTRY: USA

ZIP: 80203

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patent Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/004,731

FILING DATE:

CLASSIFICATION:

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US/08/749,699

FILING DATE:

ATTORNEY/AGENT INFORMATION:

NAME: Connell, Gary J.

REGISTRATION NUMBER: 32,020

REFERENCE/DOCKET NUMBER: 2618-25-C3

TELECOMMUNICATION INFORMATION:

TELEPHONE: (303) 863-9700

TELEFAX: (303) 863-0223

INFORMATION FOR SEQ ID NO: 33:

SEQUENCE CHARACTERISTICS:

LENGTH: 400 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: protein

US-09-004-731-33

Query Match 18.7%; Score 435; DB 3; Length 400;

Best Local Similarity 32.0%; Pred. No. 2.9e-29;

Matches 108; Conservative 45; Mismatches 135; Indels 50; Gaps 10;

QY 80 CRSGWGRFCQREVSFLNCSLDNGGCTHYCLEFVGWRGSCAPGYKLDLLOCHPAVKE 139  
DB 94 CRYKGRFECGLSIS---CVLGGKPLDLCGSGMIM---SCVDRDIRPEPOHQAQNA 147  
QY 140 PCGRPWKMKRSHLKRDEDOVDPRLLIDGKMTGRGDSFMQVLLDS---KKKLAC 196  
DB 148 TCGELYTRSN-----RIYGHSTGFSHMQALIKSFLSKLSC 188  
QY 197 GAVLIHPSWYLTAACM--DESKKLIVRLGEYDLR---RMEKWEIJDLYKVFVHNYS 250  
DB 189 GAVLHPSWYLTAACM--DESKKLIVRLGEYDLR---RMEKWEIJDLYKVFVHNYS 250  
QY 197 GAVLIHPSWYLTAACM--DESKKLIVRLGEYDLR---RMEKWEIJDLYKVFVHNYS 250  
DB 189 GAVLHPSWYLTAACM--DESKKLIVRLGEYDLR---RMEKWEIJDLYKVFVHNYS 250  
QY 251 KSTYNDIALHLAQPATLSOTIPICLPDSGLARELINAQOGLTYVTGWSHSSREKEA 310  
DB 247 PTDRNDVALVLRDITVIFKQHILPVCLP-----HKQMLAGKMATVAGMG---KIRHG 297  
QY 311 KRNTFYALNFIKIPVPHNECSEVM-----SNMVSNNLCAGLIGRDQACGDSGGGPV 365  
DB 298 GSTVPALVQGVDEVEVTPNERCQWFRPAGRRETIHDVFLGAGYKGGGDSGDSGGGPII 357  
QY 366 ASFHGTWFLVGLVSWGEGCGILLNHYGYTKVSRILDMT 403  
DB 358 MQIEGRRTLVGLVSWGIGCGREHLPGVYTNIOKFLPMI 395

## RESULT 110

US-08-749-699-30

Sequence 30, Application US/08749699

Patent No. 6210920

GENERAL INFORMATION:

APPLICANT: Wu Hunter, Shirley

APPLICANT: Stiegler, Gary

TITLE OF INVENTION: FLEA PROTEASE PROTEINS, NUCLEIC ACID

TITLE OF INVENTION: MOLECULES AND USES THEREOF

NUMBER OF SEQUENCES: 103

CORRESPONDENCE ADDRESS:

ADDRESSEE: Sheridan Ross P.C.

STREET: 1700 Lincoln Street, Suite 3500

CITY: Denver

STATE: Colorado

COUNTRY: USA

ZIP: 80203

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patent Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/749,699

FILING DATE:

CLASSIFICATION: 424

ATTORNEY/AGENT INFORMATION:

NAME: Connell, Gary J.

REGISTRATION NUMBER: 32,020

REFERENCE/DOCKET NUMBER: 2618-25-C3

TELECOMMUNICATION INFORMATION:

TELEPHONE: (303) 863-9700

TELEFAX: (303) 863-0223

INFORMATION FOR SEQ ID NO: 30:

SEQUENCE CHARACTERISTICS:

LENGTH: 400 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: protein

US-08-749-699-30

Query Match 18.7%; Score 435; DB 3; Length 400;

Best Local Similarity 32.0%; Pred. No. 2.9e-29;

Matches 108; Conservative 45; Mismatches 135; Indels 50; Gaps 10;

QY 80 CRSGWGRFCQREVSFLNCSLDNGGCTHYCLEFVGWRGSCAPGYKLDLLOCHPAVKE 139  
DB 94 CRYKGRFECGLSIS---CVLGGKPLDLCGSGMIM---SCVDRDIRPEPOHQAQNA 147  
QY 140 PCGRPWKMKRSHLKRDEDOVDPRLLIDGKMTGRGDSFMQVLLDS---KKKLAC 196  
DB 148 TCGELYTRSN-----RIYGHSTGFSHMQALIKSFLSKLSC 188  
QY 197 GAVLIHPSWYLTAACM--DESKKLIVRLGEYDLR---RMEKWEIJDLYKVFVHNYS 250  
DB 189 GAVLHPSWYLTAACM--DESKKLIVRLGEYDLR---RMEKWEIJDLYKVFVHNYS 250  
QY 197 GAVLIHPSWYLTAACM--DESKKLIVRLGEYDLR---RMEKWEIJDLYKVFVHNYS 250  
DB 189 GAVLHPSWYLTAACM--DESKKLIVRLGEYDLR---RMEKWEIJDLYKVFVHNYS 250  
QY 251 KSTYNDIALHLAQPATLSOTIPICLPDSGLARELINAQOGLTYVTGWSHSSREKEA 310  
DB 247 PTDRNDVALVLRDITVIFKQHILPVCLP-----HKQMLAGKMATVAGMG---KIRHG 297  
QY 311 KRNTFYALNFIKIPVPHNECSEVM-----SNMVSNNLCAGLIGRDQACGDSGGGPV 365  
DB 298 GSTVPALVQGVDEVEVTPNERCQWFRPAGRRETIHDVFLGAGYKGGGDSGDSGGGPII 357  
QY 366 ASFHGTWFLVGLVSWGEGCGILLNHYGYTKVSRILDMT 403  
DB 358 MQIEGRRTLVGLVSWGIGCGREHLPGVYTNIOKFLPMI 395

## RESULT 111

US-08-749-699-33  
; Sequence 33, Application US/08749699  
; Patent No. 6210920  
; GENERAL INFORMATION:  
; APPLICANT: Wu Hunter, Shirley  
; APPLICANT: Stiegler, Gary  
; APPLICANT: Gaines, Patrick J.  
; TITLE OF INVENTION: FLEA PROTEASE PROTEINS, NUCLEIC ACID  
; TITLE OF INVENTION: MOLECULES AND USES THEREOF  
; NUMBER OF SEQUENCES: 103  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Sheridan Ross P.C.  
; STREET: 1700 Lincoln Street, Suite 3500  
; CITY: Denver  
; STATE: Colorado  
; COUNTRY: USA  
; ZIP: 80203  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent in Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/749,699  
; FILING DATE:  
; CLASSIFICATION: 424  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Cornell, Gary J.  
; REGISTRATION NUMBER: 32,020  
; REFERENCE/DOCKET NUMBER: 2618-25-C3  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (303) 863-9700  
; TELEFAX: (303) 863-0223  
; INFORMATION FOR SEQ ID NO: 33:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 400 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
US-08-749-699-33

Query Match 18.7%; Score 435; DB 3; Length 400;  
Best Local Similarity 32.0%; Pred. No. 2.9e-29;  
Matches 108; Conservative 45; Mismatches 135; Indels 50; Gaps 10;  
QY 80 CDSGMEGRFCQREVSFLNCSLDNGSCTHYCLEBVGMRKSCAPGYLGDILLQCHPAVKF 139  
DB 94 CRKGERFECGLSTIS--CVLGSGKPLDSCSGMTW--SCVDNRDIRPPOHQAQNA 147  
QY 140 PCGRPMKMEKKSRLKRTDEDOEDVDPRLLIDGKMTGRGSPWQVVLDS--KKKLAC 196  
DB 148 TCGELYTRSN-----RIYGHSTGSGHPQAAALIKSGFLSKLSC 188  
QY 197 GAVLIHPSWVLTAAHCM--DESKLLVRLGEYDLR--RMEKELDLDIKEVFNHPYS 250  
DB 189 GGAIVSDRWVLTAAHCVATTNPSNMLKRLGEMVDVDRHDERLNHEEVALIERKE--VHSYS 246  
QY 251 KSTNDNALALHQAATLSQTIIVICLPDSGLARELNQAGETLYTGMGHSRREKA 310  
DB 247 PTFDRNDVALKLDRTVTFKQHLPLVCLP-----HKQMLAKKATVTAAG--RTBHG 297  
QY 311 KRNRTFVNLFIKIPVFNHCESEVW-----SNVSENNMLCAGILGRDADCEGDSGPMV 365  
DB 298 QSTVPAVLQEVDAVEIPIVNERCQWRFAAGRETIHDVFLCAGYKEGRDSCQDSGGPLI 357  
QY 366 ASFHGTWFLVGLVSWGEGGGLHNHYGYTTKSKRYLDM 403  
DB 358 MQIEGRRTLVGLVSWGIGCGREHLPGVYTNIQKFIPI 395

RESULT 112  
US-09-004-729-30

## ; Sequence 30, Application US/09004729

US-09-004-729-30  
; Patent No. 6406900  
; GENERAL INFORMATION:  
; APPLICANT: Wu Hunter, Shirley  
; APPLICANT: Stiegler, Gary  
; APPLICANT: Gaines, Patrick J.  
; TITLE OF INVENTION: FLEA PROTEASE PROTEINS, NUCLEIC ACID  
; TITLE OF INVENTION: MOLECULES AND USES THEREOF  
; NUMBER OF SEQUENCES: 103  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Sheridan Ross P.C.  
; STREET: 1700 Lincoln Street, Suite 3500  
; CITY: Denver  
; STATE: Colorado  
; COUNTRY: USA  
; ZIP: 80203  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent in Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/09/004,729  
; FILING DATE:  
; CLASSIFICATION: 424  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US/08/749,699  
; FILING DATE:  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Cornell, Gary J.  
; REGISTRATION NUMBER: 32,020  
; REFERENCE/DOCKET NUMBER: 2618-25-C3  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (303) 863-9700  
; TELEFAX: (303) 863-0223  
; INFORMATION FOR SEQ ID NO: 30:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 400 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
US-09-004-729-30

Query Match 18.7%; Score 435; DB 4; Length 400;  
Best Local Similarity 32.0%; Pred. No. 2.9e-29;  
Matches 108; Conservative 45; Mismatches 135; Indels 50; Gaps 10;  
QY 80 CDSGMEGRFCQREVSFLNCSLDNGSCTHYCLEBVGMRKSCAPGYLGDILLQCHPAVKF 139  
DB 94 CRKGERFECGLSTIS--CVLGSGKPLDSCSGMTW--SCVDNRDIRPPOHQAQNA 147  
QY 140 PCGRPMKMEKKSRLKRTDEDOEDVDPRLLIDGKMTGRGSPWQVVLDS--KKKLAC 196  
DB 148 TCGELYTRSN-----RIYGHSTGSGHPQAAALIKSGFLSKLSC 188  
QY 197 GAVLIHPSWVLTAAHCM--DESKLLVRLGEYDLR--RMEKELDLDIKEVFNHPYS 250  
DB 189 GGAIVSDRWVLTAAHCVATTNPSNMLKRLGEMVDVDRHDERLNHEEVALIERKE--VHSYS 246  
QY 251 KSTNDNALALHQAATLSQTIIVICLPDSGLARELNQAGETLYTGMGHSRREKA 310  
DB 247 PTFDRNDVALKLDRTVTFKQHLPLVCLP-----HKQMLAKKATVTAAG--RTBHG 297  
QY 311 KRNRTFVNLFIKIPVFNHCESEVW-----SNVSENNMLCAGILGRDADCEGDSGPMV 365  
DB 298 QSTVPAVLQEVDAVEIPIVNERCQWRFAAGRETIHDVFLCAGYKEGRDSCQDSGGPLI 357  
QY 366 ASFHGTWFLVGLVSWGEGGGLHNHYGYTTKSKRYLDM 403  
DB 358 MQIEGRRTLVGLVSWGIGCGREHLPGVYTNIQKFIPI 395

RESULT 113

US-09-004-729-33

Sequence 33, Application US/09004729  
Patent No. 6406900  
GENERAL INFORMATION:  
APPLICANT: Wu Hunter, Shirley  
APPLICANT: Stiegler, Gary  
APPLICANT: Gaines, Patrick J.  
TITLE OF INVENTION: FLEA PROTEASE PROTEINS, NUCLEIC ACID  
TITLE OF INVENTION: MOLECULES AND USES THEREOF  
NUMBER OF SEQUENCES: 103  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Sheridan Ross P.C.  
STREET: 1700 Lincoln Street, Suite 3500  
CITY: Denver  
STATE: Colorado  
COUNTRY: USA  
ZIP: 80203  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/004,729  
CLASSIFICATION: 424  
PRIORITY APPLICATION DATA:  
APPLICATION NUMBER: US/08/749,699  
FILING DATE:  
ATTORNEY/AGENT INFORMATION:  
NAME: Connell, Gary J.  
REGISTRATION NUMBER: 32,020  
REFERENCE/DOCKET NUMBER: 2618-25-03  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (303) 863-9700  
TELEFAX: (303) 863-0223  
INFORMATION FOR SEQ ID NO: 33:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 400 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-09-004-729-33

Query Match 18.7%; Score 435; DB 4; Length 400;

Best Local Similarity 32.0%; Pred. No. 2.9e-29;

Matches 108; Conservative 45; Mismatches 135; Indels 50; Gaps 10;

QY 80 CRSGWGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRRCSCAPGYKLGDDLLQCHPAVKF 139  
DB 94 CRYKGRFECGLSIS---CVLGGKPLDLCGSGMIM---SCVDRDIRPEFHQGALQNA 147  
QY 140 PCGRPWKMKKRSKSLKRDTEDEQVDPRLIDGKTRRQDSFQVVLDS---KKTLAC 196  
DB 148 TCGELYTRSN-----RIVGSHSTGFSHWMQALIKSGPLSKLSC 188  
QY 197 GAVLIHPSWVLTAAICM--DESKKLIVRLGEYDLR---RMEKWEIIDLKIVFVHNYS 250  
DB 199 GGAIVSRWVITPAICVATTPNSLTKVRLGEMVDVDRDDEHNEEVALIRKE--VHSSYS 246  
QY 251 KSTTDNDIALHLAOPATLSQTVIPICLPDSGLARELNOAGQETLVTMGSHSREKEA 310  
DB 247 PTDPRNDVALVKLDRTVIFKQHLIPVCLP-----HKQKLAGKMATVAGWG---RTRHG 297  
QY 311 KKRRTVLANFIKIPVPHNECEVM-----SNMVSNNLCAGILGRDADCEGDSGGPMV 365  
DB 238 QSTVPVAVLQEVDEIVPNERCQWRPRAAGRETIHDVFLCAGYEGGRDSGQDSGGPLT 357  
QY 366 ASFHGTWFLVGLVSWGEGGLLHNYGYTVYSRYLDWI 403  
DB 358 MQIEGRRTLVGLVSWGICGGRHLPGVYTNIOKFLPMI 395

RESULT 114

US-09-032-215-8

Sequence 8, Application US/09032215  
Patent No. 6204010  
GENERAL INFORMATION:  
APPLICANT: Stiegler, Gary L.  
APPLICANT: Gaines, Patrick J.  
TITLE OF INVENTION: FLEA PROTEASE PROTEINS, NUCLEIC  
TITLE OF INVENTION: ACID MOLECULES, AND USES THEREOF  
NUMBER OF SEQUENCES: 50  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Sheridan Ross P.C.  
STREET: 1700 Lincoln Street, Suite 3500  
CITY: Denver  
STATE: Colorado  
COUNTRY: U.S.A.  
ZIP: 80203  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: ASCII DOS TEXT  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/032,215  
FILING DATE: 27-FEB-1998  
CLASSIFICATION: 536  
PRIORITY APPLICATION DATA:  
APPLICATION NUMBER:  
FILING DATE:  
ATTORNEY/AGENT INFORMATION:  
NAME: Connell, Gary J.  
REGISTRATION NUMBER: 32,020  
REFERENCE/DOCKET NUMBER: 2618-25-06  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (303) 863-9700  
TELEFAX: (303) 863-0223  
INFORMATION FOR SEQ ID NO: 8:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 387 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: Protein  
US-09-032-215-8

Query Match 18.6%; Score 432; DB 3; Length 387;

Best Local Similarity 32.0%; Pred. No. 5e-29;

Matches 108; Conservative 44; Mismatches 136; Indels 50; Gaps 10;

QY 80 CRSGWGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRRCSCAPGYKLGDDLLQCHPAVKF 139  
DB 81 CRYKGRFECGLSIS---CVLGGKPLDLCGSGMIM---SCVDRDIRPEFHQGALQNA 134  
QY 140 PCGRPWKMKKRSKSLKRDTEDEQVDPRLIDGKTRRQDSFQVVLDS---KKTLAC 196  
DB 135 TCGELYTRSN-----RIVGSHSTGFSHWMQALIKSGPLSKLSC 175  
QY 197 GAVLIHPSWVLTAAICM--DESKKLIVRLGEYDLR---RMEKWEIIDLKIVFVHNYS 250  
DB 176 GGAIVSRWVITPAICVATTPNSLTKVRLGEMVDVDRDDEHNEEVALIRKE--VHSSYS 233  
QY 251 KSTTDNDIALHLAOPATLSQTVIPICLPDSGLARELNOAGQETLVTMGSHSREKEA 310  
DB 234 PTDPRNDVALVKLDRTVIFKQHLIPVCLP-----HKQKLAGKMATVAGWG---RTRHG 284  
QY 311 KKRRTVLANFIKIPVPHNECEVM-----SNMVSNNLCAGILGRDADCEGDSGGPMV 365  
DB 285 QSTVPVAVLQEVDEIVPNERCQWRPRAAGRETIHDVFLCAGYEGGRDSGQDSGGPLT 344  
QY 366 ASFHGTWFLVGLVSWGEGGLLHNYGYTVYSRYLDWI 403  
DB 345 MQIEGRRTLVGLVSWGICGGRHLPGVYTNIOKFLPMI 382

## RESULT 115

US-09-032-215-13  
Sequence 13, Application US/09032215  
Patent No. 6204010  
GENERAL INFORMATION:  
APPLICANT: Stiegler, Gary L.  
APPLICANT: Gaines, Patrick J.  
TITLE OF INVENTION: FLUA PROTEASE PROTEINS, NUCLEIC  
ACID MOLECULES, AND USES THEREOF  
NUMBER OF SEQUENCES: 50  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Sheridan Ross P.C.  
STREET: 1700 Lincoln Street, Suite 3500  
CITY: Denver  
STATE: Colorado  
COUNTRY: U.S.A.  
ZIP: 80203  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: ASCII DOS TEXT  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/032,215  
FILING DATE: 27-FEB-1998  
CLASSIFICATION: 536  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER:  
FILING DATE:  
ATTORNEY/AGENT INFORMATION:  
NAME: Connell, Gary J.  
REGISTRATION NUMBER: 32,020  
REFERENCE/DOCKET NUMBER: 2618-25-C6  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (303) 863-9700  
TELEFAX: (303) 863-0223  
INFORMATION FOR SEQ ID NO: 13:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 387 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: Protein  
US-09-032-215-13

Query Match 18.6%; Score 432; DB 3; Length 387;  
Best Local Similarity 32.0%; Pred. No. 5e-29; Indels 50; Gaps 10;  
Matches 108; Conservative 44; Mismatches 136;

QY 80 CRSWGEFCCQREVSFLNCSLDNGCTHYCHIEVGRRCSCAPGYKLGDDLLQCHPAVKF 139  
DB 81 CRXGERFECGLS---CVLGGKRPDLCSGGMIV---SCCVDRDIRPEPQHQALQNA 134  
QY 140 PCGRPWKMEKRSKSHLRKTEDEQDVDFLLDGKMTKRGDSPPQVLLDS---KKKLAC 196  
DB 135 TCGELYTRSN-----RIVGSHSTGSGHPWQALINSGLSKLSC 175  
QY 197 GATLHPNSVLTAAHGM--DESKLLVRLGSDLR---RWKMEFLDLDKEFVAPNYS 250  
DB 176 GGLVSDRWVLTAAHCVATTENSNLKVRLGMDVDRDLNHEHYAIERKE--VHPSYS 233  
QY 251 KSTTDNDIALHLAQPATLSQITVPCLDPSGLAERLNOAQCELTVTGWGHSSEKEA 310  
DB 234 PFDGRDVALVLRDTVTFKQHLIFVCLP-----HKQMKLAGKATVAGWG---RTRHG 284  
QY 311 KNRRTVPLNFYKIPVPHNCSFVM-----SNMSENMCAGLDRODDCEGDSGGPVW 365  
DB 285 QSTVPALVQEVAVEITPNERCQRFPAAGRETTIHDFLCAGKEGSDSCQSGSGLT 344  
QY 366 ASFHGTWPLVGLVSGGCGLLANVGVYTKVSRYLDTI 403  
DB 345 MQLERRTLVGLVSGIGCGRHLPTVTINQKRIPIW 382

## RESULT 116

US-08-944-483-48  
Sequence 48, Application US/08944483  
Patent No. 6232456  
GENERAL INFORMATION:  
APPLICANT: COHEN, MAURICE  
APPLICANT: COLPITTS, TRACEY L.  
APPLICANT: FRIEDMAN, PAULA N.  
APPLICANT: GRANNADOS, EDWARD N.  
APPLICANT: KLAAS, MICHAEL R.  
APPLICANT: RUSSELL, JOHN C.  
APPLICANT: STEWART, KENT D.  
APPLICANT: STROUPE, STEVEN D.  
TITLE OF INVENTION: NOVEL SERINE PROTEASE REAGENTS  
AND METHODS USEFUL FOR DETECTING AND TREATING DISEASES  
NUMBER OF SEQUENCES: 76  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Abbott Laboratories  
STREET: 100 Abbott Park Road  
CITY: Abbott Park  
STATE: IL  
COUNTRY: USA  
ZIP: 60064-3500  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Diskette  
COMPUTER: IBM Compatible  
OPERATING SYSTEM: DOS  
SOFTWARE: FastSeq for Windows Version 2.0  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/944,483  
FILING DATE:  
CLASSIFICATION: 424  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER:  
FILING DATE:  
ATTORNEY/AGENT INFORMATION:  
NAME: Becker, Cheryl L.  
REGISTRATION NUMBER: 35,441  
REFERENCE/DOCKET NUMBER: 6183.US.01  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 847/935-1729  
TELEFAX: 847/938-2623  
TELEX:  
INFORMATION FOR SEQ ID NO: 48:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 235 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: No. 6232456e  
US-08-944-483-48

Query Match 18.5%; Score 429; DB 3; Length 235;  
Best Local Similarity 35.7%; Pred. No. 4.9e-29; Indels 14; Gaps 5;  
Matches 85; Conservative 44; Mismatches 95;

QY 170 LIIDKMTKRGDSPPQVLLDSKTKKLAQAVLIHPSWVLTAAHCDKSKLLVRLGSDLR 229  
DB 1 VVSGEAKKQGGPPQVV--LNGKVDACGGSIVNEKMTVTAHCVETGKATITVAVGEHNIE 59  
QY 230 RWEKMEFLDLDIEVVEHNPYSKSTT--DNDIALHLAQPATLSQITVPCLDPSGLAERE 287  
DB 60 ETEHTKGRKRVRIIPHNHYAANKYNDIALLELDPLVLSYTPICLADKEYINIF 119  
QY 288 LNAQCELTVTGWG--YHSSREKAKRNTFYINFYKIPVPHNCSFVSNMSENMCA 345  
DB 120 LKFG--SGYVSGKGVTHKGS-----ALVLQYLRVPLVDATCTLRSTKFTIYNMFC 170  
QY 346 AGILGRDQACESDGGGPMVASFHGTWPLVGLVSGGCGLLANVGVYTKVSRYLDTI 403  
DB 171 AGFHGGRDSCQSDGGGPHVTEVGTSTFLTGLIISWGECAKKGKGYITKVSRYNMKI 228



RESULT 117  
US-09-004-731-36  
; Sequence 36, Application US/09004731  
; Patent No. 6177258  
; GENERAL INFORMATION:  
; APPLICANT: Wu Hunter, Shirley  
; APPLICANT: Stiegler, Gary  
; APPLICANT: Gaines, Patrick J.  
; TITLE OF INVENTION: FLEA PROTEASE PROTEINS, NUCLEIC ACID  
; TITLE OF INVENTION: MOLECULES AND USES THEREOF  
; NUMBER OF SEQUENCES: 103  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Sheridan Ross P.C.  
; STREET: 1700 Lincoln Street, Suite 3500  
; CITY: Denver  
; STATE: Colorado  
; COUNTRY: USA  
; ZIP: 80203  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/09/004,731  
; FILING DATE:  
; CLASSIFICATION:  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US/08/749,699  
; FILING DATE:  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Connell, Gary J.  
; REGISTRATION NUMBER: 32,020  
; REFERENCE/DOCKET NUMBER: 2618-25-C3  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (303) 863-9700  
; TELEFAX: (303) 863-0223  
; INFORMATION FOR SEQ ID NO: 36:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 242 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
US-09-004-731-36

Query Match 18.4%; Score 428.5; DB 3; Length 242;  
Best Local Similarity 37.1%; Pred. No. 5,6e-29;  
Matches 92; Conservative 40; Mismatches 91; Indels 25; Gaps 7;

QY 170 LIDGKMTNRGDSFQWVLLDS---KKKLAGAVLIHPSWVLTAAHGM--DESKKLVRLG 224  
DB 1 IVGHSTGFSGSHFQWALIKSGFLSKKSCGALVSDRWITAAHCVATTNSMLKVRIG 60  
QY 225 EYDRL---RMEKWEIDDIKEVYVHNYSKSTNDIALHLAQPATLSQTIPICLPD 280  
DB 61 EMDVRDHDRLNHEBVAIERKE--VHPSYSPDPFNDVALVKDRFVIRKQHLIPVCLP- 117  
QY 281 SGIAERLNAQGETLVYTGNGYHSREKAKNRFTVINFIKIPVYPHNECSEVM----- 335  
DB 118 ---HKQKLAGMAITVAGWG---RTRHGQSTVPAVIOEVDVETPNRCQRMFRAGR 169  
QY 336 SNMYSNNMLCAGILGRDADCEGDSGGPMTASFFHGTWFLVGLVSGEGGGLAHNYGYTK 395  
DB 170 RETIHDFLCAGYKSGRDSGCGDSGPIIMQIEGRRTLVGLVSWGIGGRHRLPGVYTN 229  
QY 396 VSRYLDT 403  
DB 230 IQKFLPWL 237

RESULT 118  
US-08-749-699-36

; Sequence 36, Application US/08749699  
; Patent No. 6210920  
; GENERAL INFORMATION:  
; APPLICANT: Wu Hunter, Shirley  
; APPLICANT: Stiegler, Gary  
; APPLICANT: Gaines, Patrick J.  
; TITLE OF INVENTION: FLEA PROTEASE PROTEINS, NUCLEIC ACID  
; TITLE OF INVENTION: MOLECULES AND USES THEREOF  
; NUMBER OF SEQUENCES: 103  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Sheridan Ross P.C.  
; STREET: 1700 Lincoln Street, Suite 3500  
; CITY: Denver  
; STATE: Colorado  
; COUNTRY: USA  
; ZIP: 80203  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/749,699  
; FILING DATE:  
; CLASSIFICATION: 424  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Connell, Gary J.  
; REGISTRATION NUMBER: 32,020  
; REFERENCE/DOCKET NUMBER: 2618-25-C3  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (303) 863-9700  
; TELEFAX: (303) 863-0223  
; INFORMATION FOR SEQ ID NO: 36:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 242 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
US-08-749-699-36

Query Match 18.4%; Score 428.5; DB 3; Length 242;  
Best Local Similarity 37.1%; Pred. No. 5,6e-29;  
Matches 92; Conservative 40; Mismatches 91; Indels 25; Gaps 7;

QY 170 LIDGKMTNRGDSFQWVLLDS---KKKLAGAVLIHPSWVLTAAHGM--DESKKLVRLG 224  
DB 1 IVGHSTGFSGSHFQWALIKSGFLSKKSCGALVSDRWITAAHCVATTNSMLKVRIG 60  
QY 225 EYDRL---RMEKWEIDDIKEVYVHNYSKSTNDIALHLAQPATLSQTIPICLPD 280  
DB 61 EMDVRDHDRLNHEBVAIERKE--VHPSYSPDPFNDVALVKDRFVIRKQHLIPVCLP- 117  
QY 281 SGIAERLNAQGETLVYTGNGYHSREKAKNRFTVINFIKIPVYPHNECSEVM----- 335  
DB 118 ---HKQKLAGMAITVAGWG---RTRHGQSTVPAVIOEVDVETPNRCQRMFRAGR 169  
QY 336 SNMYSNNMLCAGILGRDADCEGDSGGPMTASFFHGTWFLVGLVSGEGGGLAHNYGYTK 395  
DB 170 RETIHDFLCAGYKSGRDSGCGDSGPIIMQIEGRRTLVGLVSWGIGGRHRLPGVYTN 229  
QY 396 VSRYLDT 403  
DB 230 IQKFLPWL 237

RESULT 119  
US-09-004-729-36  
; Sequence 36, Application US/09004729  
; Patent No. 6406900  
; GENERAL INFORMATION:  
; APPLICANT: Wu Hunter, Shirley  
; APPLICANT: Stiegler, Gary  
; APPLICANT: Gaines, Patrick J.

```

; TITLE OF INVENTION: FLEA PROTEASE PROTEINS, NUCLEIC ACID
; TITLE OF INVENTION: MOLECULES AND USES THEREOF
; NUMBER OF SEQUENCES: 103
; CORRESPONDENCE ADDRESS:
; ADDRESS: Sheridan Ross P.C.
; STREET: 1700 Lincoln Street, Suite 3500
; CITY: Denver
; STATE: Colorado
; COUNTRY: USA
; ZIP: 80203
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/004,729
; FILING DATE:
; CLASSIFICATION: 424
; PRIORITY APPLICATION DATA:
; APPLICATION NUMBER: US/08/749,699
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Connell, Gary J.
; REGISTRATION NUMBER: 32,020
; REFERENCE/DOCKET NUMBER: 2618-25-C3
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (303) 863-9700
; TELEFAX: (303) 863-0223
; INFORMATION FOR SEQ ID NO: 36:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 242 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-09-004-729-36

Query Match      18.4%; Score 428.5; DB 4; Length 242;
Best Local Similarity 37.1%; Pred. No. 5.6e-29;
Matches 92; Conservative 40; Mismatches 91; Indels 25; Gaps 7;

QY 170 LIDGKMTGRDSDPWQVLLDS---KKKLAAGAVLHPSWVLTAAHCK--DESKLLVRLG 224
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
; 1 IYGHSTGFGSHPWQALIKSGFLSKKLSCGALVSDRWVITAAHCATPNSNKVTLG 60
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

QY 225 EYDLR---FMEKELDLDIKFVFNHNSKSTTNDIALHLAQPATLSQITVPLCPD 280
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
; 61 EWDVVDHDERLHNEEYAIERK--VHPSYSPTDFRDVALVKDRVITFKQHLPLVCLP- 117
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

QY 281 SGIARELNQAGETLVTMGYHSSREKAKRNRPVINFIKIPVPHNECEVM----- 335
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
; 118 ----HKQMKLAGWAVYAGWG---RTRHGQSTVPNAVIGVDVAVINERCCQWFRPAGR 169
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

QY 336 SMMVSENNLCAGLIGRDACGDSGGGPMVASHGTMVLGCVSWGCGCLLHNTGYTK 395
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
; 170 RETIDVFLCAGYEGGRDSCQDGGFLIMQIEGRRLVGIWVGIGCGREHLPGVYTN 229
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

QY 396 VSRYLDMT 403
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
; 230 IQKFLPMI 237
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

RESULT 120
US-08-750-711-1
; Sequence 1, Application US/08750711
; GENERAL INFORMATION:
; APPLICANT: Dawson, Keith M
; APPLICANT: Wood, Lars M
; APPLICANT: Comer, Michael B
; TITLE OF INVENTION: THROMBOLYTIC COMPOSITION
; NUMBER OF SEQUENCES: 1
; CORRESPONDENCE ADDRESS:

```

```

; ADDRESS: Banner & Allegretti, Ltd.
; STREET: 1001 G Street, N.W.
; CITY: Washington, D.C.
; STATE:
; COUNTRY: USA
; ZIP: 20001
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Word Perfect 5.1
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/750,711
; FILING DATE: March 18, 1997
; CLASSIFICATION: 514
; PRIORITY APPLICATION DATA:
; APPLICATION NUMBER: PCT/GB95/01388
; FILING DATE: June 14, 1995
; APPLICATION NUMBER: GB 9412131.6
; FILING DATE: June 17, 1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Hoschelt, Dale H.
; REGISTRATION NUMBER: 19,090
; REFERENCE/DOCKET NUMBER: 10180.01675
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 202-508-9100
; TELEFAX: 202-508-9200
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 814 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-750-711-1

Query Match      18.1%; Score 421; DB 1; Length 814;
Best Local Similarity 32.6%; Pred. No. 1.1e-27;
Matches 111; Conservative 49; Mismatches 119; Indels 62; Gaps 14;

QY 81 RSGMEGRFCQREVFNLCSLNDGCTHYCLEVGMRCSCAPGYLGD--DLIQHPAVK 138
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
; 523 RALERNYCR-----NPDGDVGG-----PM--CYTTPRLKLYVYCDVPPQC--AAPS 564
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

QY 139 FPGGRPMERMEKRSHTLKRDTEQDQVDVPLIDGKMTGRDSDPWQVLLDSKKKLACGA 198
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
; 565 FDCGRK--QVPEPKCTTK-----IKPRIVGGCVAPHSPWQVSLKTRPGEWFCGG 613
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

QY 199 VLHPSWVLTAAHCKMDESKK---LVLRLGEYDLRWMEKELDLDIKFVFNHNSKSTTD 255
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
; 614 TLISPEWVLTAAHCKLSPSSYKVIILAHQKYNLEPHVQIEIVSRFLPEP-----TR 667
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

QY 256 NDIALHLAQPATLSQITVPLCPDPSG--LAERELNQAQETLVTMGYHSSREKAKEN 313
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
; 668 KDIILAKLSSPAVITDVIIPACLPSPNVYVADR-----TECFITMGW-----ETQ 712
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

QY 314 RTVLNLFK--IPVPHNECS--EYMSNMVSENNLCAGLIGRDACGDSGGGPMVASHF 368
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
; 713 GTFGAGILKEAQLPVTINVKYCNRYEFLNGRVQSTELCAHGLGGTDSQDGGSPVACE 772
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

QY 369 HGTMFVLGCVSWGCGCLLHNTGYTKVSRYLDMTHIGHRD 409
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
; 773 KDKTILQVTSWGLGACAPMKPGVYKRSRFTVYIIBGVAN 813
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

RESULT 121
US-08-944-483-63
; Sequence 63, Application US/08944483
; Patent No. 6232456
; GENERAL INFORMATION:
; APPLICANT: COHEN, MAURICE
; APPLICANT: COLPITTS, TRACEY L.
; APPLICANT: FRIEDMAN, PAULA N.
; APPLICANT: GRANADOS, EDWARD N.

```

```

/ APPLICANT: KLAAS, MICHAEL R.
/ APPLICANT: RUSSELL, JOHN C.
/ APPLICANT: STENART, KENT D.
/ APPLICANT: STROUPE, STEVEN D.
/ TITLE OF INVENTION: NOVEL SERINE PROTEASE REAGENTS
/ TITLE OF INVENTION: AND METHODS USEFUL FOR DETECTING AND TREATING DISEASES
/ TITLE OF INVENTION: OF THE PROSTATE
/ NUMBER OF SEQUENCES: 76
/ CORRESPONDENCE ADDRESS:
/ ADDRESSEE: Abbott Laboratories
/ STREET: 100 Abbott Park Road
/ CITY: Abbott Park
/ STATE: IL
/ COUNTRY: USA
/ ZIP: 60064-3500
/ COMPUTER READABLE FORM:
/ MEDIUM TYPE: Diskette
/ COMPUTER: IBM Compatible
/ OPERATING SYSTEM: DOS
/ SOFTWARE: FASTSEQ for Windows Version 2.0
/ CURRENT APPLICATION DATA:
/ APPLICATION NUMBER: US/08/944,483
/ FILING DATE:
/ CLASSIFICATION: 424
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER:
/ FILING DATE:
/ ATTORNEY/AGENT INFORMATION:
/ NAME: Becker, Cheryl L.
/ REGISTRATION NUMBER: 35,441
/ REFERENCE/DOCKET NUMBER: 6183.US.01
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: 847/935-1723
/ TELEFAX: 847/938-2623
/ TELEX:
/ INFORMATION FOR SEQ ID NO: 63:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 248 amino acids
/ TYPE: amino acid
/ STRANDEDNESS: single
/ TOPOLOGY: linear
/ MOLECULE TYPE: No. 6232456e
/ US-08-944-483-63

Query Match      18.0%; Score 417.5; DB 3; Length 248;
Best Local Similarity 38.7%; Pred. No. 5e-28;
Matches 96; Conservative 37; Mismatches 84; Indels 31; Gaps 8;

QY 170 LIDGKXTRRGDSFPCV--VILDSKKKLACGAVLIHPSVWLTAAHCOMDESKLLVRLGEY 226
DB 1 IVGGTNSMGEWPMWVSLQVKTAFGRHL-CGSLIHQWVLTAAHCPD-----GLPIQ 52
QY 227 DLRWEKELD-----DIKEVFVHRYSKSTTNDIALHLAQPATLSQITVPI 276
DB 53 DWKRIYSGIILNIDITKOTPFSSQIKKIIHQYKVSNGNDIALIKLAPLNTYEROKPI 112
QY 277 CLPDSGLARELNAGQETLYTGMVGHSSREKAKRRRTVLFIKIPVPHNECE--VM 335
DB 113 CLPEKG---DSTIYTNVMTWNGF--SKKEGELQN--ILQKNIIPLVINECCQKRG 163
QY 336 SNWSENMICAGIILDRQDACEGDSGSPVAVSFHQTFVLVLGVSWSGCGGLHNYGYTK 395
DB 164 DYKITQWYCAVKEKGDACKDPSGGLVCKHNGMRLVIGITSWGCAGARRQPGVYTK 223
QY 396 VSRILDWI 403
DB 224 VAEYMDWI 231

RESULT 122
US-08-681-151-3
/ Sequence 3, Application US/08681151
/ Patent No. 5869637

```

```

/ GENERAL INFORMATION:
/ APPLICANT: Au-Young, Janice
/ APPLICANT: Bandman, Olga
/ APPLICANT: Braxton, Scott Michael
/ APPLICANT: Goll, Surya
/ TITLE OF INVENTION: A NOVEL HUMAN KALLIKEIN
/ NUMBER OF SEQUENCES: 4
/ CORRESPONDENCE ADDRESS:
/ ADDRESSEE: INCYTE PHARMACEUTICALS, INC.
/ STREET: 3174 Porter Drive
/ CITY: Palo Alto
/ STATE: CA
/ COUNTRY: US
/ ZIP: 94304
/ COMPUTER READABLE FORM:
/ MEDIUM TYPE: Diskette
/ COMPUTER: IBM Compatible
/ OPERATING SYSTEM: DOS
/ SOFTWARE: FASTSEQ Version 1.5
/ CURRENT APPLICATION DATA:
/ APPLICATION NUMBER: US/08/681,151
/ FILING DATE: Herewith
/ CLASSIFICATION: 435
/ PRIOR APPLICATION DATA:
/ APPLICATION NUMBER:
/ FILING DATE:
/ ATTORNEY/AGENT INFORMATION:
/ NAME: Billings, Lucy J.
/ REGISTRATION NUMBER: 36,749
/ REFERENCE/DOCKET NUMBER: PF-0074US
/ TELECOMMUNICATION INFORMATION:
/ TELEPHONE: 415-855-0555
/ TELEFAX: 415-845-4166
/ TELEX:
/ INFORMATION FOR SEQ ID NO: 3:
/ SEQUENCE CHARACTERISTICS:
/ LENGTH: 638 amino acids
/ TYPE: amino acid
/ STRANDEDNESS: single
/ TOPOLOGY: linear
/ MOLECULE TYPE: peptide
/ IMMEDIATE SOURCE:
/ LIBRARY: GENBANK
/ CLONE: 205011
/ US-08-681-151-3

Query Match      17.8%; Score 414; DB 2; Length 638;
Best Local Similarity 28.3%; Pred. No. 3.2e-27;
Matches 132; Conservative 66; Mismatches 159; Indels 110; Gaps 19;

QY 12 SLERECIEEL-CDPEAKEIFQVNDTLAFWSKHVDSQCLVPLLEHPCASLCCGHTCI 70
DB 199 SLKSCALSELGCM--DIFQH---FAFADINVSQ---VTPDAFVCRVCTFHFNCL 238
QY 71 DGLSPSCDGRSGWREGRQREVSFLNCSLDNGGCTHYCLE--VGMRRSCA----- 121
DB 239 -----PFTYVTEWETB--SQRNVCFLKTS--KSGRSPITIIQENAVGYSILFTCKKARPP 291
QY 122 -----PGYKLGDLLOCHPAVKPCGRPMK-----RMEKRSILKR 157
DB 292 CHEFKIYGVAFEGEHELNAFTFQGDACQETCTKTRIQCFYSLPLPQDKAEGKCSIRL 351
QY 158 DTE-----DQEDVDRLIDGKTRRGDSFPCV--VIL 187
DB 352 STDGSPRTITYEAQSSGYSIRLCKVVESSDCTTKINRIYGGTNSLDGEWPMVSLQV 411
QY 188 LDSKKKLACGAVLIHPSVWLTAAHCOMDESKLLVRLGEYDLREWEKELD----- 238
DB 412 LVSQNM-CGSGITIGQWILTAAHCPD-----GIYPDVWRIYSGIILNLSITNNKTF 463
QY 239 -DIKEVFVHRYSKSTTNDIALHLAQPATLSQITVPICLPDSGLARELNAGQETLY 297
DB 464 SSIKELIHQYKVSNGSYDIALIKLOTPLNTYEROKICLP---SKADNTIYTNQV 519

```

QY 298 TWCJSHSSEKAKNRTFVNIPIKIPVPHNESEVMS-AVSENMICAGILGDRDQC 356  
DB 520 TGMGY--TKERETON--ILOKATIPLVNEECQKXRYVITTKOMI CAGYKEGIDAC 574  
QY 357 EGDGCPMVASFHGTWFLVLSVSGGCLLHNYGYTKYSRLDWM 403  
DB 575 KDSGGPLVCKHSGRMQLVGTTSWGBCCARKEQPVITTKAEYIDMI 621

## RESULT 123

US-08-248-629A-1  
; Sequence 1, Application US/08248629A  
; Patent No. 5639725  
; GENERAL INFORMATION:  
; APPLICANT: Folkman, Judah  
; APPLICANT: O'Reilly, Michael  
; TITLE OF INVENTION: Angiostatin and Method of Use  
; NUMBER OF SEQUENCES: 6  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Jones & Askew  
; STREET: 191 Peachtree Street, 37th Floor  
; CITY: Atlanta  
; STATE: Georgia  
; COUNTRY: USA  
; ZIP: 30303-1769  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Diskette, 3.50  
; COMPUTER: Macintosh  
; OPERATING SYSTEM: 7.0  
; SOFTWARE: Microsoft Word  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/248,629A  
; FILING DATE: 04/26/94  
; CLASSIFICATION: 514  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER:  
; FILING DATE:  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Larry W. Stults, Ph.D.  
; REGISTRATION NUMBER: 34,025  
; REFERENCE/DOCKET NUMBER: 05213-0120  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 404-818-3700  
; TELEFAX: 404-818-3799  
; INFORMATION FOR SEQ ID NO: 1:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 812  
; TYPE: amino acid  
; TOPOLOGY: linear  
; US-08-248-629A-1

Query Match 17.7%; Score 412; DB 1; Length 812;  
Best Local Similarity 32.1%; Pred. No. 6.3e-27;  
Matches 108; Conservative 51; Mismatches 91; Indels 86; Gaps 16;

QY 107 HCLCEBVG-----WRCSGAPGYKLD--DLQCHPAVYFPGGRWKMCKKSHLKRT 159  
DB 529 NYCRRPDGVDNGPW--CYTTPRKLYDCDIPICASASSFEGCKP----- 571  
QY 160 EDGEDQVDP-----RLDGMTRRSGDSPQVVLIDSKKLA-----CGAVLIHPSWLTAA 210  
DB 572 -----QVEPKKCPGRVVGCVANPHSWPQJSL--RTFTQGHCGGTLIAEPWLTAA 623  
QY 211 HCMDESKR--LTVRLGEYDLRRMEKMLDIDKEVFV-----HNYSKSTTNDIALIH 262  
DB 624 HCLKSSRPREFYKVLIGH--BEYIRGLDVOEISVAKLILEPN-----NRDIALIK 672  
QY 263 LAQPAISOTIVPICLPDSC--LAERELNQGQETLVYTGNG-----YHSSREKAKRNT 315  
DB 673 LSRPATITDKVLPACLPSPMYVADRIT-----CYTTGGETGTGTFAGRLKXA----- 721  
QY 316 FVLNFIKIPVPHNECS--EVMSENMVSENMICAGILGDRDQACGDSGSPVAVSFHGTWF 373

DB 722 -----QLPIENKVCNVEYLIANNRVYSTELCAGGLAGVDSCQGGSGGPLVCEKDKYI 775  
QY 374 LVGLVSWGEGCGLLHNYGYTKYSRLDWMHGHID 409  
DB 776 LQGVTSWGLCAGFPNKPQYVYVSRFPDWMEREN 811

## RESULT 124

US-08-451-932-1  
; Sequence 1, Application US/08451932  
; Patent No. 573876  
; GENERAL INFORMATION:  
; APPLICANT: Folkman, Judah  
; APPLICANT: O'Reilly, Michael  
; TITLE OF INVENTION: Method of Treating an Angiogenic  
; DISEASE  
; NUMBER OF SEQUENCES: 6  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Jones & Askew  
; STREET: 191 Peachtree Street, 37th Floor  
; CITY: Atlanta  
; STATE: Georgia  
; COUNTRY: USA  
; ZIP: 30303-1769  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Diskette, 3.50  
; COMPUTER: Macintosh  
; OPERATING SYSTEM: 7.0  
; SOFTWARE: Microsoft Word  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/451,932  
; FILING DATE: 05/26/95  
; CLASSIFICATION: 514  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: 08/248,629  
; FILING DATE: 04/26/94  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Larry W. Stults, Ph.D.  
; REGISTRATION NUMBER: 34,025  
; REFERENCE/DOCKET NUMBER: 05213-0123  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 404-818-3700  
; TELEFAX: 404-818-3799  
; INFORMATION FOR SEQ ID NO: 1:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 812  
; TYPE: amino acid  
; TOPOLOGY: linear  
; US-08-451-932-1

Query Match 17.7%; Score 412; DB 1; Length 812;  
Best Local Similarity 32.1%; Pred. No. 6.3e-27;  
Matches 108; Conservative 51; Mismatches 91; Indels 86; Gaps 16;

QY 107 HCLCEBVG-----WRCSGAPGYKLD--DLQCHPAVYFPGGRWKMCKKSHLKRT 159  
DB 529 NYCRRPDGVDNGPW--CYTTPRKLYDCDIPICASASSFEGCKP----- 571  
QY 160 EDGEDQVDP-----RLDGMTRRSGDSPQVVLIDSKKLA-----CGAVLIHPSWLTAA 210  
DB 572 -----QVEPKKCPGRVVGCVANPHSWPQJSL--RTFTQGHCGGTLIAEPWLTAA 623  
QY 211 HCMDESKR--LTVRLGEYDLRRMEKMLDIDKEVFV-----HNYSKSTTNDIALIH 262  
DB 624 HCLKSSRPREFYKVLIGH--BEYIRGLDVOEISVAKLILEPN-----NRDIALIK 672  
QY 263 LAQPAISOTIVPICLPDSC--LAERELNQGQETLVYTGNG-----YHSSREKAKRNT 315  
DB 673 LSRPATITDKVLPACLPSPMYVADRIT-----CYTTGGETGTGTFAGRLKXA----- 721  
QY 316 FVLNFIKIPVPHNECS--EVMSENMVSENMICAGILGDRDQACGDSGSPVAVSFHGTWF 373

Db 722 -----OLPIENKVCNREYILNRRKYSTELCAGLAGVDS CGDSGGPILVCEPKXKI 775

QY 374 LVGLVSWGEGGGLHNHYGYTKVSRYLDMWIGHIRD 409

Db 776 LVGLVSWGLGCAKPNKRGVYVRSFVDMIEREMRN 811

RESULT 125

US-08-452-260-1

/ Sequence 1, Application US/08452260

/ Patent No. 5776704

/ GENERAL INFORMATION:

/ APPLICANT: Folman, Judah

/ APPLICANT: O'Reilly, Michael

/ TITLE OF INVENTION: Method of Diagnosing an Angiogenic

/ TITLE OF INVENTION: Disease

/ NUMBER OF SEQUENCES: 6

/ CORRESPONDENCE ADDRESS:

/ ADDRESSER: Jones & Askew

/ STREET: 191 Peachtree Street, 37th Floor

/ CITY: Atlanta

/ STATE: Georgia

/ COUNTRY: USA

/ ZIP: 30303-1769

/ COMPUTER READABLE FORM:

/ MEDIUM TYPE: Diskette, 3.50

/ OPERATING SYSTEM: 7.0

/ SOFTWARE: Microsoft Word

/ CURRENT APPLICATION DATA:

/ APPLICATION NUMBER: US/08/452,260

/ FILING DATE: 05/26/95

/ CLASSIFICATION: 514

/ PRIOR APPLICATION DATA:

/ APPLICATION NUMBER: 08/248,629

/ FILING DATE: 04/26/94

/ ATTORNEY/AGENT INFORMATION:

/ NAME: Larry W. Stults, Ph.D.

/ REGISTRATION NUMBER: 34,025

/ REFERENCE/DOCKET NUMBER: 05213-0124

/ TELECOMMUNICATION INFORMATION:

/ TELEPHONE: 404-818-3700

/ TELEFAX: 404-818-3799

/ INFORMATION FOR SEQ ID NO: 1:

/ SEQUENCE CHARACTERISTICS:

/ LENGTH: 812

/ TYPE: amino acid

/ TOPOLOGY: linear

US-08-452-260-1

Query Match 17.7%; Score 412; DB 1; Length 812;

Best Local Similarity 32.1%; Pred. No. 6.3e-27;

Matches 108; Conservative 51; Mismatches 91; Indels 86; Gaps 16;

QY 107 HCYCLEVVG-----MRCSCAPGYKLD--DLIQHPAVKPCGRPMKMKKSHLRDRT 159

Db 529 NYCNPNPDGVNPGW--CYTTPRKLYDCDIPLCASASPECKP----- 571

QY 160 EDQEDQVDP-----RLIDGKTRRGSPQOVVLDSSKKA-----CGAVLIHPSWTLTA 210

Db 572 -----QYEPKPCRGVVGCVANPHSWPQJSL--RTRFGQHFQGGTLLAPWVLTAA 623

QY 211 HCMDESKK--LLVNLGEYDARMEKMELDLDIKEVY-----HPVYSKTDNDIALH 262

Db 624 HCLEKSRPEFFKVLIGH--EYIRGLDVOEISVAKLIEPN-----NRDIALK 672

QY 263 LAOPATLSQITVPICLPDSG--LAERELNOAGQETLVTWG-----YHSSREKAKENRT 315

Db 673 LSRPATITDVAIPACLPSPNMYVADRIT-----CYITGMGTGCTFGAGRIKKA----- 721

QY 316 FVNLFIKIPVYVHNCS--EYMSMVSNNMLCAGILGRDADCEGSGGPPWVAHFHGTWF 373

Db 722 -----OLPIENKVCNREYILNRRKYSTELCAGLAGVDS CGDSGGPILVCEPKXKI 775

QY 374 LVGLVSWGEGGGLHNHYGYTKVSRYLDMWIGHIRD 409

Db 776 LVGLVSWGLGCAKPNKRGVYVRSFVDMIEREMRN 811

RESULT 126

US-08-326-785-1

/ Sequence 1, Application US/08326785

/ Patent No. 5792845

/ GENERAL INFORMATION:

/ APPLICANT: Folman, Judah

/ APPLICANT: O'Reilly, Michael

/ TITLE OF INVENTION: Angiostatin and Method of Use

/ NUMBER OF SEQUENCES: 6

/ CORRESPONDENCE ADDRESS:

/ ADDRESSER: Jones & Askew

/ STREET: 191 Peachtree Street, 37th Floor

/ CITY: Atlanta

/ STATE: Georgia

/ COUNTRY: USA

/ ZIP: 30303-1769

/ COMPUTER READABLE FORM:

/ MEDIUM TYPE: Diskette, 3.50

/ OPERATING SYSTEM: 7.0

/ SOFTWARE: Microsoft Word

/ CURRENT APPLICATION DATA:

/ APPLICATION NUMBER: US/08/326,785

/ FILING DATE:

/ CLASSIFICATION: 424

/ PRIOR APPLICATION DATA:

/ APPLICATION NUMBER: 08/248,629

/ FILING DATE: 04/26/94

/ ATTORNEY/AGENT INFORMATION:

/ NAME: Larry W. Stults, Ph.D.

/ REGISTRATION NUMBER: 34,025

/ REFERENCE/DOCKET NUMBER: 05213-0121

/ TELECOMMUNICATION INFORMATION:

/ TELEPHONE: 404-818-3700

/ TELEFAX: 404-818-3799

/ INFORMATION FOR SEQ ID NO: 1:

/ SEQUENCE CHARACTERISTICS:

/ LENGTH: 812

/ TYPE: amino acid

/ TOPOLOGY: linear

US-08-326-785-1

Query Match 17.7%; Score 412; DB 1; Length 812;

Best Local Similarity 32.1%; Pred. No. 6.3e-27;

Matches 108; Conservative 51; Mismatches 91; Indels 86; Gaps 16;

QY 107 HCYCLEVVG-----MRCSCAPGYKLD--DLIQHPAVKPCGRPMKMKKSHLRDRT 159

Db 529 NYCNPNPDGVNPGW--CYTTPRKLYDCDIPLCASASPECKP----- 571

QY 160 EDQEDQVDP-----RLIDGKTRRGSPQOVVLDSSKKA-----CGAVLIHPSWTLTA 210

Db 572 -----QYEPKPCRGVVGCVANPHSWPQJSL--RTRFGQHFQGGTLLAPWVLTAA 623

QY 211 HCMDESKK--LLVNLGEYDARMEKMELDLDIKEVY-----HPVYSKTDNDIALH 262

Db 624 HCLEKSRPEFFKVLIGH--EYIRGLDVOEISVAKLIEPN-----NRDIALK 672

QY 263 LAOPATLSQITVPICLPDSG--LAERELNOAGQETLVTWG-----YHSSREKAKENRT 315

Db 673 LSRPATITDVAIPACLPSPNMYVADRIT-----CYITGMGTGCTFGAGRIKKA----- 721

QY 316 FVNLFIKIPVYVHNCS--EYMSMVSNNMLCAGILGRDADCEGSGGPPWVAHFHGTWF 373

Db 722 -----OLPIENKVCNREYILNRRKYSTELCAGLAGVDS CGDSGGPILVCEPKXKI 775

QY 374 LVGLVSWGEGGGLHNHYGYTKVSRYLDMWIGHIRD 409



QY 316 FVNFILKIPVFNHES--EWSMNVSENLCAGLISRODACEGDSGPMVASFHGTWF 373  
Db 722 -----OLPYIENKVCNREYINNRKVSSTELCAGOLAGGVSCQDSGSPVCFEKOKYT 775  
QY 374 LVGLSWGEGCGGLHNYGYTVKSRYLDMTHGIRD 409  
Db 776 LOGVTSWGLGCRPNKPGYTVVSRFVDMIEREMRN 811

## RESULT 129

US-08-429-743-1  
; Sequence 1, Application US/08429743  
; Patent No. 5885795  
; GENERAL INFORMATION:  
; APPLICANT: O'Reilly, Michael  
; APPLICANT: Folkman, M. Judah  
; APPLICANT: Sim, Kim Lee  
; APPLICANT: Cao, Yihai  
; TITLE OF INVENTION: Angiostatin and Method of Use  
; NUMBER OF SEQUENCES: 6  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Jones & Askew  
; STREET: 191 Peachtree Street, 37th Floor  
; CITY: Atlanta  
; STATE: Georgia  
; COUNTRY: U.S.  
; ZIP: 30303-1769  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/429,743  
; FILING DATE:  
; CLASSIFICATION: 424  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 08/248,629  
; FILING DATE: 26-APR-1994  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 08/326,785  
; FILING DATE: 20-OCT-1994  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Johnson, James D.  
; REGISTRATION NUMBER: 31,771  
; REFERENCE/DOCKET NUMBER: 05213-0122  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 404-818-3700  
; TELEFAX: 404-818-3799  
; INFORMATION FOR SEQ ID NO: 1:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 812 amino acids  
; TYPE: amino acid  
; STRANDEDNESS:  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
; HYPOTHEICAL: NO  
; ORIGINAL SOURCE:  
; ORGANISM: Murine  
; US-08-429-743-1

## Query Match

Best Local Similarity 32.1%; Score 412; DB 2; Length 812;  
Matches 108; Conservative 51; Mismatches 91; Indels 86; Gaps 16;

QY 107 HYLCELVG---WRSCAGGYLGD--DLQCHPAVKPCGPEMKMKRSHLRDT 159  
Db 529 NYCENPDGVNPGW--CYTNPRLYDYCDIPLCASASFECKGP----- 571  
QY 160 EDQDDQYDP-----RLDNGKMTGRGSPKQVWLLDSKKYLA-----CGAVLHPSWVLTAA 210  
Db 572 -----QVEPKCPGEGVGVGVANPDHSPWQISL--RTRFTGQHFGCGTLLAPFWVLTAA 623

QY 211 HMDSEKX---LLVRLGEYDLRWEKMELDIDKEVYF-----HPNYSKSTINDIALH 262  
Db 624 HCLERSSPPEFYKYLGAH-----BEYIRGLDVOELSTAKILERP-----NRDIALK 672  
QY 263 LAQPAATLSQITVPLCLPDSG--LAERLNGAGGETLVGMC-----YHSREKERNRT 315  
Db 673 LSRPATITDKYIPACLPSPNVMVADRIT-----CYTGMSETGTGAGRLKEA----- 721  
QY 316 FVNFILKIPVFNHES--EWSMNVSENLCAGLISRODACEGDSGPMVASFHGTWF 373  
Db 722 -----OLPYIENKVCNREYINNRKVSSTELCAGOLAGGVSCQDSGSPVCFEKOKYT 775  
QY 374 LVGLSWGEGCGGLHNYGYTVKSRYLDMTHGIRD 409  
Db 776 LOGVTSWGLGCRPNKPGYTVVSRFVDMIEREMRN 811

## RESULT 130

US-08-866-735-1  
; Sequence 1, Application US/08866735  
; Patent No. 5945403  
; GENERAL INFORMATION:  
; APPLICANT: Folkman, M. Judah  
; APPLICANT: O'Reilly, Michael  
; TITLE OF INVENTION: Angiostatin Fragments and Method of Use  
; NUMBER OF SEQUENCES: 6  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Jones & Askew, LLP  
; STREET: 191 Peachtree Street, 37th Floor  
; CITY: Atlanta  
; STATE: Georgia  
; COUNTRY: USA  
; ZIP: 30303-1769  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/866,735  
; FILING DATE: 30-MAY-1997  
; CLASSIFICATION: 435  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Warren, William L.  
; REGISTRATION NUMBER: 36,714  
; REFERENCE/DOCKET NUMBER: 05940-0129  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (404) 818-3700  
; TELEFAX: (404) 818-3799  
; INFORMATION FOR SEQ ID NO: 1:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 812 amino acids  
; TYPE: amino acid  
; STRANDEDNESS:  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
; HYPOTHEICAL: NO  
; ANTI-SENSE: NO  
; FRAGMENT TYPE: N-terminal  
; ORIGINAL SOURCE:  
; ORGANISM: Murine  
; IMMEDIATE SOURCE:  
; CLONE: Plasmidogen  
; US-08-866-735-1

## Query Match

Best Local Similarity 32.1%; Score 412; DB 2; Length 812;  
Matches 108; Conservative 51; Mismatches 91; Indels 86; Gaps 16;

QY 107 HYLCELVG---WRSCAGGYLGD--DLQCHPAVKPCGPEMKMKRSHLRDT 159  
Db 529 NYCENPDGVNPGW--CYTNPRLYDYCDIPLCASASFECKGP----- 571

```

QY 160 EDGEDQVDP-----RLIDGKMTRRGDSPMQVVLIDSKKLA-----CGAVLIHPSWVLTAA 210
D 572 -----QVEPKCKPGRVVGCVANPHSWPMQISL-----RTFTGQHFGCGTILAPFWLTAA 623
QY 211 HMDDESKK---LLVRLGEYDLRMEKMLDIDIEVYV-----HNYKSTNDNDIALH 262
D 624 HCLEKSRPEFYKYLGAH-----EYIRGLDVQELISVAKLILEFN-----NRDIALLK 672
QY 263 LAOPATLSQTVIPICLPDSG--LAERELNQAQETLVYTWG-----YHSSREKAKRNRT 315
D 673 LSRPATTDKVTPACLPSPNMTADRTI-----CYITMGETQGTFGAGRLKEA----- 721
QY 316 FVLANFKIPVPHNECS--EWSNMVSENNLCAGILGDRDACEGDSGGMVYASPHGTWF 373
D 722 -----QLPVLENKVCNRVYLNRRVKSTELCAQOLAGVDSGCGSPVCFEKDKYI 775
QY 374 LVGLVSWGEGCGLLHNYGYTKVSRYLDMIGHIRD 409
D 776 LVGLVSWGLGCAHPKPGVYVRSFVDMIEREMRN 811

```

## RESULT 131

```

US-09-066-028-1
Sequence 1, Application US/09066028

```

```

GENERAL INFORMATION:
PATENT NO. 6024688
APPLICANT: Folkman, M. Judah
APPLICANT: O'Reilly, Michael
APPLICANT: Cao, Yihai
APPLICANT: Sim, B. Kim Lee
TITLE OF INVENTION: Angiostatin Fragments and Method of Use
NUMBER OF SEQUENCES: 45
CORRESPONDENCE ADDRESS:
ADDRESS: 191 Peachtree Street, 37th Floor
CITY: Atlanta
STATE: Georgia
COUNTRY: U.S.
ZIP: 30303-1769
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/066,028
FILING DATE:
CLASSIFICATION:
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: 08/612,788
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Warren, William L.
REGISTRATION NUMBER: 36,714
REFERENCE/DOCKET NUMBER: 05213-0126
TELECOMMUNICATION INFORMATION:
TELEPHONE: 404-818-3700
TELEFAX: 404-818-3799
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 812 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: N-terminal
ORIGINAL SOURCE:
ORGANISM: Murine
IMMEDIATE SOURCE:
CLONE: Plasmidogen

```

## US-09-066-028-1

Query Match 17.7%; Score 412; DB 3; Length 812;

Best Local Similarity 32.1%; Pred. No. 6.3e-27; Indels 86; Gaps 16;

Matches 108; Conservative 51; Mismatches 91; Indels 86; Gaps 16;

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QY 107 HYLEEYV-----WRSCAPGYKLD--DLQCHPAVKEPCGRPMKMEKKSRLKRD 159
D 529 NYCNPDPDVGWPM--CYTTPRKLYDYCDIPLCASASSFEGCKP----- 571
QY 160 EDGEDQVDP-----RLIDGKMTRRGDSPMQVVLIDSKKLA-----CGAVLIHPSWVLTAA 210
D 572 -----QVEPKCKPGRVVGCVANPHSWPMQISL-----RTFTGQHFGCGTILAPFWLTAA 623
QY 211 HMDDESKK---LLVRLGEYDLRMEKMLDIDIEVYV-----HNYKSTNDNDIALH 262
D 624 HCLEKSRPEFYKYLGAH-----EYIRGLDVQELISVAKLILEFN-----NRDIALLK 672
QY 263 LAOPATLSQTVIPICLPDSG--LAERELNQAQETLVYTWG-----YHSSREKAKRNRT 315
D 673 LSRPATTDKVTPACLPSPNMTADRTI-----CYITMGETQGTFGAGRLKEA----- 721
QY 316 FVLANFKIPVPHNECS--EWSNMVSENNLCAGILGDRDACEGDSGGMVYASPHGTWF 373
D 722 -----QLPVLENKVCNRVYLNRRVKSTELCAQOLAGVDSGCGSPVCFEKDKYI 775
QY 374 LVGLVSWGEGCGLLHNYGYTKVSRYLDMIGHIRD 409
D 776 LVGLVSWGLGCAHPKPGVYVRSFVDMIEREMRN 811

```

## RESULT 132

```

US-09-192-012-3
Sequence 3, Application US/09192012A

```

```

GENERAL INFORMATION:
PATENT NO. 6475784
APPLICANT: Papkoff, Jackie
APPLICANT: Megabios Corporation
APPLICANT: Pfizer, Inc.
TITLE OF INVENTION: Inhibition of Angiogenesis by Delivery of Nucleic Acids
FILE REFERENCE: 018484-00011005
CURRENT APPLICATION NUMBER: US/09/192,012A
CURRENT FILING DATE: 1998-11-13
EARLIER APPLICATION NUMBER: US 60/066,020
EARLIER FILING DATE: 1997-11-14
NUMBER OF SEQ ID NOS: 9
SOFTWARE: Patent In Ver. 2.0
SEQ ID NO 3
LENGTH: 812
TYPE: PRT
ORGANISM: Mus sp.
FEATURE:
OTHER INFORMATION: mouse plasmidogen
US-09-192-012-3

```

Query Match 17.7%; Score 412; DB 4; Length 812;

Best Local Similarity 32.1%; Pred. No. 6.3e-27;

Matches 108; Conservative 51; Mismatches 91; Indels 86; Gaps 16;

```

QY 107 HYLEEYV-----WRSCAPGYKLD--DLQCHPAVYFPGRRPMKMEKKSRLKRD 159
D 529 NYCNPDPDVGWPM--CYTTPRKLYDYCDIPLCASASSFEGCKP----- 571
QY 160 EDGEDQVDP-----RLIDGKMTRRGDSPMQVVLIDSKKLA-----CGAVLIHPSWVLTAA 210
D 572 -----QVEPKCKPGRVVGCVANPHSWPMQISL-----RTFTGQHFGCGTILAPFWLTAA 623
QY 211 HMDDESKK---LLVRLGEYDLRMEKMLDIDIEVYV-----HNYKSTNDNDIALH 262
D 624 HCLEKSRPEFYKYLGAH-----EYIRGLDVQELISVAKLILEFN-----NRDIALLK 672
QY 263 LAOPATLSQTVIPICLPDSG--LAERELNQAQETLVYTWG-----YHSSREKAKRNRT 315

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Db 673 LSRPATITDKVIPACLPSPNNVADRTT-----CITGMCETGTFGAGRLKRA----- 721  
QY 316 FVLNFIKIPVYPHNECS--EWSNNVSENNLCAGILGRDADCGDSGGPMVASFHGTWF 373  
Db 722 -----QLPVLENKVCNREYLIANNRVKSTELCAGQLAGGVDSCCGDSGGPLVCFEKDKYI 775  
QY 374 LVGLVSWGEGCGLLHNYGYTYKVSRYLDWTHGHIRD 409  
Db 776 LGVTSWGLGCRPNKRGYVVSFRVDMTEREMRN 811

RESULT 133  
US-09-335-325-1  
; Sequence 1, Application US/09335325  
; Patent No. 6521439  
; GENERAL INFORMATION:  
; APPLICANT: Folkman, M. Judah  
; O'Reilly, Michael  
; Cao, Yihai  
; Sim, B. Kim Lee  
; TITLE OF INVENTION: Angiostatin Fragments and Method of Use  
; NUMBER OF SEQUENCES: 45  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Jones & Askew  
; STREET: 191 Peachtree Street, 37th Floor  
; CITY: Atlanta  
; STATE: Georgia  
; COUNTRY: U.S.  
; ZIP: 30303-1769  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patentin Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/09/335,325  
; FILING DATE: 17-Jun-1999  
; CLASSIFICATION: <Unknown>  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US/08/612,788  
; FILING DATE: <Unknown>  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Warren, William L.  
; REGISTRATION NUMBER: 36,714  
; REFERENCE/DOCKET NUMBER: 05213-0126  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 404-818-3700  
; TELEFAX: 404-818-3799  
; INFORMATION FOR SEQ ID NO: 1:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 812 amino acids  
; TYPE: amino acid  
; STRANDEDNESS: <Unknown>  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
; HYPOTHEICAL: NO  
; ANTI-SENSE: NO  
; FRAGMENT TYPE: N-terminal  
; ORIGINAL SOURCE:  
; ORGANISM: Murine  
; IMMEDIATE SOURCE:  
; CLONE: Plasmidogen  
; SEQUENCE DESCRIPTION: SEQ ID NO: 1:  
US-09-335-325-1

Query Match 17.7%; Score 412; DB 4; Length 812;  
Best Local Similarity 32.1%; Pred. No. 6.3e-27;  
Matches 108; Conservative 51; Mismatches 91; Indels 86; Gaps 16;

QY 107 HYLCELVG-----WRGSCAPGYLGD--DLIQHPAYKPPCGRPWKMEKKRSHLKRDT 159  
Db 529 NYCNPDPGVNPGW--CYTINPRKLYDYCDIPLCASASFECKGP----- 571

QY 160 EDOENQDPE-----RLIDGKMTFRGDSFQVVLIDSKKLA-----CGAVLHPSWLTAA 210  
Db 572 -----QVEPKKCGKRGVVGCCVANRHSNFWQISL---RRRTFGHFCGGTILNPEWLTAA 623  
QY 211 HCMDESKK--LVLRLGEYDLRRWEKWLDDIKEYV-----HPNYSKSTDDNIALIH 262  
Db 624 HCLEKSSRPPEYKVLIGAH-----EYIRGLDVQELISVAKILFNP-----NRDIALIK 672  
QY 263 LADPRLTSGITVPICLPDSG--LAERLNOAGGTILVGMG-----YHSSREKARBRRT 315  
Db 673 LSRPATITDKVIPACLPSPNNVADRTT-----CITGMCETGTFGAGRLKRA----- 721

QY 316 FVLNFIKIPVYPHNECS--EWSNNVSENNLCAGILGRDADCGDSGGPMVASFHGTWF 373  
Db 722 -----QLPVLENKVCNREYLIANNRVKSTELCAGQLAGGVDSCCGDSGGPLVCFEKDKYI 775  
QY 374 LVGLVSWGEGCGLLHNYGYTYKVSRYLDWTHGHIRD 409  
Db 776 LGVTSWGLGCRPNKRGYVVSFRVDMTEREMRN 811

RESULT 134  
US-08-991-761A-12  
; Sequence 12, Application US/08991761A  
; Patent No. 6576609  
; GENERAL INFORMATION:  
; APPLICANT: Soff, Gerald  
; APPLICANT: Gately, Stephen  
; APPLICANT: Twardowski, Przemyslaw  
; TITLE OF INVENTION: "Methods and Compositions for Generating  
; NUMBER OF SEQUENCES: 16  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Sheridan Rose P.C.  
; STREET: 1700 Lincoln St., Suite 3500  
; CITY: Denver  
; STATE: CO  
; COUNTRY: USA  
; ZIP: 80203  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patentin Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/991,761A  
; FILING DATE:  
; CLASSIFICATION: 1642  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Crook, Wanneil M.  
; REGISTRATION NUMBER: 31,071  
; REFERENCE/DOCKET NUMBER: 3501-16-1  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (303) 863-9700  
; TELEFAX: (303) 863-0223  
; INFORMATION FOR SEQ ID NO: 12:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 812 amino acids  
; TYPE: amino acid  
; STRANDEDNESS: single  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
US-08-991-761A-12

Query Match 17.7%; Score 412; DB 4; Length 812;  
Best Local Similarity 32.1%; Pred. No. 6.3e-27;  
Matches 108; Conservative 51; Mismatches 91; Indels 86; Gaps 16;

QY 107 HYLCELVG-----WRGSCAPGYLGD--DLIQHPAYKPPCGRPWKMEKKRSHLKRDT 159  
Db 529 NYCNPDPGVNPGW--CYTINPRKLYDYCDIPLCASASFECKGP----- 571

QY 160 EDEQDQYD-----RLIDGKMTRRGDSFQVVLIDSKKLA-----CGAVLIHPSWVLTAA 210  
DB 572 -----QVEPKCKPGRVVGCVANPHSFWQISL-----RTRFTQGHFCGGTLLAPFWLTAA 623  
QY 211 HCMDESKK---LLVRLGEYDLRRWEKMELDLDIKEVFEV-----HPNYSKSTTNDIALIH 262  
DB 624 HCLKSSRREFYKYLGAH-----EYIRGLDVQGISVAKLILEFN-----NRDIALLK 672  
QY 263 LAOPATLSQITVPICLPDSG--LAERELNQAQETLVYWG-----YHSSREKAKRRT 315  
DB 673 LSRPATITDKVLPACLPSPNVMVADRIT-----CYITWGETQGTFFAGRLKEA----- 721  
QY 316 FVLNFKIKIPVPHNECS--EVMNSMNSENMLCAGILGDRQDAQEGSGGSPVWASFGTW 373  
DB 722 -----QLPVIEKNKVCNREYLNRRYKSTELCAQGLAGVDSQGSGLPVCBEKDKTI 775  
QY 374 LVGLVSWGEGCGLLHNYGVYTKVSRYLDMVHGHIRD 409  
DB 776 LGVTSWGLGCAEPKPKGVYVRSFVDMIREKRN 811

## RESULT 135

PC9-US95-05107-1  
Sequence 1, Application PC/TUS9505107  
GENERAL INFORMATION:  
APPLICANT: THE CHILDREN'S MEDICAL CENTER, CORPORATION  
TITLE OF INVENTION: Angiostatin and Method of Use  
NUMBER OF SEQUENCES: 6  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Jones & Askew  
STREET: 191 Peachtree Street, 37th Floor  
CITY: Atlanta  
STATE: Georgia  
COUNTRY: U.S.  
ZIP: 30303-1769  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: PCT/US95/05107  
FILING DATE:  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/248,629  
FILING DATE: 26-APR-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/326,785  
FILING DATE: 20-OCT-1994  
ATTORNEY/AGENT INFORMATION:  
NAME: Johnson, James D.  
REGISTRATION NUMBER: 31,771  
REFERENCE/DOCKET NUMBER: 05213-0122  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 404-818-3700  
TELEFAX: 404-818-3799  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 812 amino acids  
TYPE: amino acid  
STRANDEDNESS:  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHETICAL: NO  
ORIGINAL SOURCE:  
ORGANISM: Murine  
PC9-US95-05107-1

Query Match 17.7%; Score 412; DB 5; Length 812;  
Best Local Similarity 32.1%; Pred. No. 6.3e-27;  
Matches 108; Conservative 51; Mismatches 91; Indels 86; Gaps 16;

QY 107 HYLCELVG-----WRSCAPGYKLGD--DLLOCHPAVKEPCGRPWKMEKRSKSHLRDT 159  
DB 529 NYCNPNQDQVNPW--CYITNPKLIDYVDIDPLCASASSFECKP----- 571  
QY 160 EDEQDQYD-----RLIDGKMTRRGDSFQVVLIDSKKLA-----CGAVLIHPSWVLTAA 210  
DB 572 -----QVEPKCKPGRVVGCVANPHSFWQISL-----RTRFTQGHFCGGTLLAPFWLTAA 623  
QY 211 HCMDESKK---LLVRLGEYDLRRWEKMELDLDIKEVFEV-----HPNYSKSTTNDIALIH 262  
DB 624 HCLKSSRREFYKYLGAH-----EYIRGLDVQGISVAKLILEFN-----NRDIALLK 672  
QY 263 LAOPATLSQITVPICLPDSG--LAERELNQAQETLVYWG-----YHSSREKAKRRT 315  
DB 673 LSRPATITDKVLPACLPSPNVMVADRIT-----CYITWGETQGTFFAGRLKEA----- 721  
QY 316 FVLNFKIKIPVPHNECS--EVMNSMNSENMLCAGILGDRQDAQEGSGGSPVWASFGTW 373  
DB 722 -----QLPVIEKNKVCNREYLNRRYKSTELCAQGLAGVDSQGSGLPVCBEKDKTI 775  
QY 374 LVGLVSWGEGCGLLHNYGVYTKVSRYLDMVHGHIRD 409  
DB 776 LGVTSWGLGCAEPKPKGVYVRSFVDMIREKRN 811

## RESULT 136

US-09-079-970A-5  
Sequence 5, Application US/09079970A  
Patent No. 6274366  
GENERAL INFORMATION:  
APPLICANT: Maifitt, Mark A.  
APPLICANT: Niles, Andrew L.  
TITLE OF INVENTION: Enzymatically-Active Recombinant Human  
TITLE OR INVENTION: Beta-Trypsin and Method of Making Same  
NUMBER OF SEQUENCES: 6  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Intellectual Property Department  
STREET: 8000 Excelsior Drive, Suite 401  
CITY: Madison  
STATE: WISCONSIN  
COUNTRY: U.S.A.  
ZIP: 53717-1914  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/079,970A  
FILING DATE:  
CLASSIFICATION: 435  
ATTORNEY/AGENT INFORMATION:  
NAME: Leone, Joseph T.  
REGISTRATION NUMBER: 37,170  
REFERENCE/DOCKET NUMBER: 34506,073  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (608) 831-2100  
TELEFAX: (608) 831-2106  
INFORMATION FOR SEQ ID NO: 5:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 249 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-09-079-970A-5

Query Match 17.7%; Score 410.5; DB 3; Length 249;  
Best Local Similarity 35.0%; Pred. No. 2e-27;  
Matches 92; Conservative 42; Mismatches 96; Indels 33; Gaps 8;  
QY 166 VDRLLDGKMTRRGDSFQVVLIDSKKLA-----ACGAVLIHPSWVLTAAHCMDESKK 218  
::: ||| |

DB 1 LEKRIYVGGQENPNSKPMQVSL-----RVHGPEYMHFGGSLIHPOWLTAAHCYGPDK 55  
QY 219 LTVRLGEYDLRMEKELD--LDIKEVFVHPNYSKSTDDNDIALHIAOPATLSQTVPI 276  
DB 56 DIAL-LRVOQLREQHLYVQDQLPVSRITVHPQYTAQIGADIALLEHEEVYSSHVATV 114  
QY 277 CLPDGGLARELNAGQETLVGMGYHSREKAKNRFTVNLTKIPVPENESEVMS 336  
DB 115 TLPPAS-----ETPPGMPGVGWG---DVANDERLPPFPPLKQVXVPLENHICDAKTH 167  
QY 337 -----NMVSENNLCAGILIGRQACEGSGPMPVASFHGTWFLVGLVSGEGCGL 387  
DB 168 LGATYGDQVRIYRDMCLAG--NTRBDSGGDSGLVCKXNGTWLAGVYVSGSCAQP 225  
QY 388 HNYGYTVKVSRYLDWIHGHIRDX 410  
DB 226 NRPGLYTRVLYLDMHHVYPRK 248

RESULT 137  
US-08-469-486-54  
; Sequence 54, Application US/08469486  
; Patent No. 5739281  
; GENERAL INFORMATION:  
; APPLICANT: Thøgersen, Hans Christian  
; APPLICANT: Holte, Thor Las  
; APPLICANT: Etzerodt, Michael  
; TITLE OF INVENTION: Improved method for the refolding of  
; TITLE OF INVENTION: proteins  
; NUMBER OF SEQUENCES: 58  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Fish & Richardson  
; STREET: 225 Franklin Street  
; CITY: Boston  
; STATE: Massachusetts  
; COUNTRY: USA  
; ZIP: 02110-2804  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version  
; SOFTWARE: #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/469,486  
; FILING DATE:  
; CLASSIFICATION: 530  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: 08/192,060  
; FILING DATE: February 4, 1994  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Paul T. Clark  
; REGISTRATION NUMBER: 30,162  
; REFERENCE/DOCKET NUMBER: 06363/002001  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 617 542 5070  
; TELEFAX: 617 542 8906  
; TELEX: 200154  
; INFORMATION FOR SEQ ID NO: 54:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 790 amino acids  
; TYPE: amino acid  
; STRANDEDNESS:  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
; US-08-469-486-54

Query Match 17.6%; Score 410; DB 1; Length 790;  
Best local Similarity 31.8%; Pred. No. 9e-27;  
Matches 110; Conservative 47; Mismatches 113; Indels 76; Gaps 14;

DB 503 RAGLEKNYCR-----NPDGVG-----PW--CYTTPRKLYXCVDPQC-AAPS 544  
QY 139 FPGGPRMGRMKRSHKXKEDTEDQEDYD-----RLIDGKTRGSGPQVYLDLSKK 193  
DB 545 FDCGRP-----QVEPRKCPGVWGGCVAPHSWPMQVSLRTREGM 584  
QY 194 LAGAVLHPSPWVLTAAHCMDSEKK--LTVRLGEYDLRMEKELDLDIKEVFVHPNYS 250  
DB 585 HFGGTLSPSPWVLTAAHCLEKSPSSYKYLGAHQVNLBPHVQELFVSRLEP 641  
QY 251 KSTTDNDIALHIAOPATLSQTVPICLPDG--LAERLNAGQETLVGMGYHSREK 308  
DB 642 ---TRDIALTKLSSPAVITDKVIPACLPSPENVVADR-----TECFITGWG----- 685  
QY 309 EAGKRTFVLFK---IPVPHNCS--EYMSNMVSENNLCAGILIGRQACEGSGGP 363  
DB 686 --ETQCTFGAGLLEKQAPVTEKNCKNRYEPLNSRVOSTELCARAGTDCSGDSGCP 743  
QY 364 MVASFHGTWFLVGLVSGEGCGLHNYGYTVKVSRYLDWIHGHIRD 409  
DB 744 LVCFERDKYITIGVTSKGLGCRAPKPKGVYVRSRFTWIEGWMEN 789

RESULT 138  
US-08-469-658-54  
; Sequence 54, Application US/08469658  
; Patent No. 5917018  
; GENERAL INFORMATION:  
; APPLICANT: Thøgersen, Hans Christian  
; APPLICANT: Holte, Thor Las  
; APPLICANT: Etzerodt, Michael  
; TITLE OF INVENTION: IMPROVED METHOD FOR THE REFOLDING OF  
; TITLE OF INVENTION: PROTEINS  
; NUMBER OF SEQUENCES: 58  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Fish & Richardson P.C.  
; STREET: 225 Franklin Street  
; CITY: Boston  
; STATE: Massachusetts  
; COUNTRY: USA  
; ZIP: 02110-2804  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version  
; SOFTWARE: #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/469,658  
; FILING DATE: June 5, 1995  
; CLASSIFICATION: 530  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: 08/192,060  
; FILING DATE: February 4, 1994  
; CLASSIFICATION: 530  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Paul T. Clark  
; REGISTRATION NUMBER: 30,162  
; REFERENCE/DOCKET NUMBER: 06363/002002  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 617 542 5070  
; TELEFAX: 617 542 8906  
; TELEX: 200154  
; INFORMATION FOR SEQ ID NO: 54:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 790 amino acids  
; TYPE: amino acid  
; STRANDEDNESS:  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
; US-08-469-658-54

Query Match 17.6%; Score 410; DB 2; Length 790;





TELECOMMUNICATION INFORMATION  
TELEPHONE: 202-508-9100TELECOMMUNICATION INFORMATION  
TELEPHONE: 202-508-9100

INFORMATION FOR SEQ ID NO: 29:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 810 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-147-000B-29

Query Match 17.6%; Score 410; DB 1; Length 810;  
Best Local Similarity 31.8%; Pred. No. 9.3e-27;  
Matches 110; Conservative 47; Mismatches 113; Indels 76; Gaps 14;

81 RSGMEGRFCQREVSFLNCSLDNGCTHYCLEEYGMRRSCAPGYKLG-DLLQCHPAVK 138  
Db 523 RAGLEKNYCR-----NPDGIVGG-----PW-CYTNPRKLYDYCVDPQC-AAAS 564  
139 FPGGRPWKMEKKRSHLRDTEDEQDVP-----RLIDGRTRGDSFMQVVLDSKK 193  
Db 565 FDGCKP-----QVEPKKCPGRVVGCVAPHSMPQVSLRTFRGM 604  
194 LAGGAVLIHPSWVLTAAHCHDESK--LLVRLGEYDLRRMEKELDDIKEYFVHPNYS 250  
Db 605 HFCGGTLISPEWVLTAAHCHCKSPSSYKYLGAHQEVNLEPHVQELVSRLEFP-- 661  
251 KSTTDNDIALHLAQPATLSQTIIVPICLPDSG--LAERELNAGQETLVTGMGHSRREK 308  
Db 662 ---TRKDIALKLSSPAVITDKVIRACLPSPNYVADR-----TECFITGMG----- 705  
309 EAKRNFYVLFNFIK--IPVVPNECS--EWSNMVSENNLCAGILGDRQDACEGDSGGP 363  
Db 706 --ETQGTFFAGILKEAQLPVLENKVCNRYEFLNGRVOSTELCAGHLAGGTDSCGDSGGP 763  
364 MYASHFGTWFLVGLVSMGEGCGILHNYGYTKVSRYLDMIHGIRD 409  
Db 764 LVCFEKDKYTLQGVTSWGLGAPRNKPGVYVRVSRFVTMIEGWMN 809

## RESULT 145

US-09-086-514-1  
Sequence 1, Application US/09086514

PATENT No. 6218517  
GENERAL INFORMATION:  
APPLICANT: SUZUKI, Kazuyasu  
TITLE OF INVENTION: A METHOD HAVING A VASCULARIZATION INHIBITORY EFFECT AND  
TITLE OF INVENTION: A METHOD FOR PRODUCTION THEREOF AND A METHOD FOR  
TITLE OF INVENTION: PRODUCING ANGIOSTATIN  
FILE REFERENCE: 032303-005  
CURRENT FILING DATE: 1998-05-28  
EARLIER FILING DATE: 1996-11-28  
NUMBER OF SEQ ID NOS: 1  
SOFTWARE: Patentin Ver. 2.0  
SEQ ID NO 1  
LENGTH: 810  
TYPE: PRT  
ORGANISM: Human plasma  
NAME/KEY: SIGNAL  
LOCATION: (1)..(19)  
US-09-086-514-1

Query Match 17.6%; Score 410; DB 3; Length 810;  
Best Local Similarity 31.8%; Pred. No. 9.3e-27;  
Matches 110; Conservative 47; Mismatches 113; Indels 76; Gaps 14;

81 RSGMEGRFCQREVSFLNCSLDNGCTHYCLEEYGMRRSCAPGYKLG-DLLQCHPAVK 138  
Db 523 RAGLEKNYCR-----NPDGIVGG-----PW-CYTNPRKLYDYCVDPQC-AAAS 564  
139 FPGGRPWKMEKKRSHLRDTEDEQDVP-----RLIDGRTRGDSFMQVVLDSKK 193  
Db 565 FDGCKP-----QVEPKKCPGRVVGCVAPHSMPQVSLRTFRGM 604

194 LAGGAVLIHPSWVLTAAHCHDESK--LLVRLGEYDLRRMEKELDDIKEYFVHPNYS 250  
Db 605 HFCGGTLISPEWVLTAAHCHCKSPSSYKYLGAHQEVNLEPHVQELVSRLEFP-- 661  
251 KSTTDNDIALHLAQPATLSQTIIVPICLPDSG--LAERELNAGQETLVTGMGHSRREK 308  
Db 662 ---TRKDIALKLSSPAVITDKVIRACLPSPNYVADR-----TECFITGMG----- 705  
309 EAKRNFYVLFNFIK--IPVVPNECS--EWSNMVSENNLCAGILGDRQDACEGDSGGP 363  
Db 706 --ETQGTFFAGILKEAQLPVLENKVCNRYEFLNGRVOSTELCAGHLAGGTDSCGDSGGP 763  
364 MYASHFGTWFLVGLVSMGEGCGILHNYGYTKVSRYLDMIHGIRD 409  
Db 764 LVCFEKDKYTLQGVTSWGLGAPRNKPGVYVRVSRFVTMIEGWMN 809

## RESULT 146

US-09-192-012-5  
Sequence 5, Application US/09192012A

PATENT No. 6473784  
GENERAL INFORMATION:  
APPLICANT: Papkoit, Jackie  
APPLICANT: Megabios Corporation  
TITLE OF INVENTION: Inhibition of Angiogenesis by Delivery of Nucleic Acids  
TITLE OF INVENTION: Encoding Anti-Angiogenesis Polypeptides  
FILE REFERENCE: 018484-000110US  
CURRENT FILING DATE: 1998-11-13  
EARLIER FILING DATE: 1997-11-14  
NUMBER OF SEQ ID NOS: 9  
SOFTWARE: Patentin Ver. 2.0  
SEQ ID NO 5  
LENGTH: 810  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-09-192-012-5

Query Match 17.6%; Score 410; DB 4; Length 810;  
Best Local Similarity 31.8%; Pred. No. 9.3e-27;  
Matches 110; Conservative 47; Mismatches 113; Indels 76; Gaps 14;

81 RSGMEGRFCQREVSFLNCSLDNGCTHYCLEEYGMRRSCAPGYKLG-DLLQCHPAVK 138  
Db 523 RAGLEKNYCR-----NPDGIVGG-----PW-CYTNPRKLYDYCVDPQC-AAAS 564  
139 FPGGRPWKMEKKRSHLRDTEDEQDVP-----RLIDGRTRGDSFMQVVLDSKK 193  
Db 565 FDGCKP-----QVEPKKCPGRVVGCVAPHSMPQVSLRTFRGM 604  
194 LAGGAVLIHPSWVLTAAHCHDESK--LLVRLGEYDLRRMEKELDDIKEYFVHPNYS 250  
Db 605 HFCGGTLISPEWVLTAAHCHCKSPSSYKYLGAHQEVNLEPHVQELVSRLEFP-- 661  
251 KSTTDNDIALHLAQPATLSQTIIVPICLPDSG--LAERELNAGQETLVTGMGHSRREK 308  
Db 662 ---TRKDIALKLSSPAVITDKVIRACLPSPNYVADR-----TECFITGMG----- 705  
309 EAKRNFYVLFNFIK--IPVVPNECS--EWSNMVSENNLCAGILGDRQDACEGDSGGP 363  
Db 706 --ETQGTFFAGILKEAQLPVLENKVCNRYEFLNGRVOSTELCAGHLAGGTDSCGDSGGP 763  
364 MYASHFGTWFLVGLVSMGEGCGILHNYGYTKVSRYLDMIHGIRD 409  
Db 764 LVCFEKDKYTLQGVTSWGLGAPRNKPGVYVRVSRFVTMIEGWMN 809

## RESULT 147

US-09-403-736-1  
Sequence 1, Application US/09403736







GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: June 14, 2004, 17:43:53 ; Search time 59 seconds

(without alignments)  
2006.566 Million cell updates/sec

Title: US-09-997-623-4  
Sequence: 1 ANSFLELRHSLSRECFE.....LDWIGHTRKAPQKSNAP 419

Scoring table: BLOSUM62  
Gapcost 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues

Total number of hits satisfying chosen parameters: 1586107

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%

Listing first 150 summaries

Database :

1: Geneseqp29Jan04:\*  
2: geneseqp1980s:\*  
3: geneseqp1990s:\*  
4: geneseqp2000s:\*  
5: geneseqp2002s:\*  
6: geneseqp2003as:\*  
7: geneseqp2003bs:\*  
8: geneseqp2004s:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	2324	100.0	419	4 AAB82673	Aab82673 Wild-type
2	2324	100.0	419	4 AAB36894	Aab36894 Human pro
3	2324	100.0	419	4 AAE08625	Aae08625 Human mat
4	2324	100.0	419	5 AAU99002	AAU99002 Human pro
5	2324	100.0	419	6 ADR55547	Abr55547 Humo aci
6	2324	100.0	419	7 ADC40014	Adc40014 Human act
7	2324	100.0	460	1 AAP81104	Aap81104 Sequence
8	2324	100.0	461	1 AAP70001	Aap70001 Sequence
9	2324	100.0	461	1 AAP70855	Aap70855 Human pro
10	2324	100.0	461	1 AAP9401	Aap9401 Zymogen f
11	2324	100.0	461	2 AAR13622	Aar13622 Human pro
12	2324	100.0	461	2 AAR13081	Aar13081 Human pro
13	2324	100.0	461	2 AAR13074	Aar13074 Protein C
14	2324	100.0	461	2 AAR34295	Aar34295 Protein C
15	2324	100.0	461	2 AAU02600	AAU02600 Human pro
16	2324	100.0	461	2 AAY49561	Aay49561 Human lec
17	2324	100.0	461	4 AAB82674	Aab82674 Wild-type
18	2324	100.0	461	4 AAB36895	Aab36895 Human pro
19	2324	100.0	461	4 AAE08626	Aae08626 Human wil
20	2324	100.0	461	5 AAU99001	AAU99001 Human pro
21	2321	99.9	419	5 AAU99035	AAU99035 Human pro
22	2321	99.9	419	5 AAU99031	AAU99031 Human pro
23	2321	99.9	461	1 AAP81205	Aap81205 Human pro
24	2321	99.9	461	1 AAP90070	Aap90070 Human pro
25	2320	99.8	419	5 AAU99074	AAU99074 Human pro

26	2319	99.8	419	5 AAU99033	AAU99033 Human pro
27	2319	99.8	419	5 AAU99015	AAU99015 Human pro
28	2319	99.8	461	2 AAR33539	Aar13539 Human pro
29	2318	99.7	419	4 AAB36896	Aab36896 Human pro
30	2318	99.7	419	5 AAU99073	AAU99073 Human pro
31	2318	99.7	419	5 AAU99096	AAU99096 Human pro
32	2318	99.7	419	5 AAU99032	AAU99032 Human pro
33	2318	99.7	461	2 AAR13397	Aar13397 Human pro
34	2318	99.7	461	2 AAR13582	Aar13582 Human pro
35	2318	99.7	461	2 AAR13585	Aar13585 Human pro
36	2318	99.7	461	2 AAR13584	Aar13584 Human pro
37	2317	99.7	419	2 AAR35760	Aar35760 Protein C
38	2317	99.7	419	5 AAU99047	AAU99047 Human pro
39	2317	99.7	419	5 AAU99069	AAU99069 Human pro
40	2317	99.7	419	5 AAU99036	AAU99036 Human pro
41	2317	99.7	419	5 AAU99075	AAU99075 Human pro
42	2317	99.7	419	5 AAU99043	AAU99043 Human pro
43	2317	99.7	460	2 AAU25086	AAU25086 Human pro
44	2316	99.7	419	5 AAU99013	AAU99013 Human pro
45	2316	99.7	419	5 AAU99019	AAU99019 Human pro
46	2316	99.7	419	5 AAU99057	AAU99057 Human pro
47	2316	99.7	419	5 AAU99007	AAU99007 Human pro
48	2316	99.7	419	5 AAU99016	AAU99016 Human pro
49	2316	99.7	419	5 AAU99051	AAU99051 Human pro
50	2316	99.7	419	5 AAU99095	AAU99095 Human pro
51	2315	99.6	419	4 AAB36898	Aab36898 Human pro
52	2315	99.6	419	5 AAU99008	AAU99008 Human pro
53	2315	99.6	419	5 AAU99049	AAU99049 Human pro
54	2315	99.6	419	5 AAU99072	AAU99072 Human pro
55	2315	99.6	419	5 AAU99050	AAU99050 Human pro
56	2315	99.6	419	5 AAU99020	AAU99020 Human pro
57	2315	99.6	419	5 AAU99058	AAU99058 Human pro
58	2315	99.6	419	5 AAU99071	AAU99071 Human pro
59	2315	99.6	419	5 AAU99014	AAU99014 Human pro
60	2315	99.6	419	5 AAU99045	AAU99045 Human pro
61	2315	99.6	419	5 AAU99052	AAU99052 Human pro
62	2315	99.6	419	5 AAU99034	AAU99034 Human pro
63	2315	99.6	419	5 AAU99066	AAU99066 Human pro
64	2314	99.6	419	4 AAB36897	Aab36897 Human pro
65	2314	99.6	419	5 AAU99005	AAU99005 Human pro
66	2314	99.6	419	5 AAU99012	AAU99012 Human pro
67	2314	99.6	419	5 AAU99019	AAU99019 Human pro
68	2314	99.6	419	5 AAU99076	AAU99076 Human pro
69	2314	99.6	419	5 AAU99009	AAU99009 Human pro
70	2314	99.6	419	5 AAU99022	AAU99022 Human pro
71	2314	99.6	419	5 AAU99070	AAU99070 Human pro
72	2314	99.6	419	5 AAU99081	AAU99081 Human pro
73	2314	99.6	419	5 AAU99055	AAU99055 Human pro
74	2314	99.6	419	5 AAU99017	AAU99017 Human pro
75	2314	99.6	419	5 AAU99024	AAU99024 Human pro
76	2314	99.6	419	5 AAU99053	AAU99053 Human pro
77	2314	99.6	419	5 AAU99059	AAU99059 Human pro
78	2314	99.6	419	5 AAU99048	AAU99048 Human pro
79	2314	99.6	419	5 AAU99003	AAU99003 Human pro
80	2314	99.6	419	5 AAU99006	AAU99006 Human pro
81	2313	99.5	419	5 AAU99018	AAU99018 Human pro
82	2313	99.5	419	5 AAU99037	AAU99037 Human pro
83	2313	99.5	419	5 AAU99018	AAU99018 Human pro
84	2313	99.5	419	5 AAU99063	AAU99063 Human pro
85	2313	99.5	419	5 AAU99083	AAU99083 Human pro
86	2313	99.5	419	5 AAU99021	AAU99021 Human pro
87	2313	99.5	419	5 AAU99041	AAU99041 Human pro
88	2313	99.5	419	5 AAU99064	AAU99064 Human pro
89	2313	99.5	419	5 AAU99064	AAU99064 Human pro
90	2313	99.5	419	5 AAU99082	AAU99082 Human pro
91	2313	99.5	419	5 AAU99010	AAU99010 Human pro
92	2313	99.5	419	5 AAU99060	AAU99060 Human pro
93	2313	99.5	419	5 AAU99056	AAU99056 Human pro
94	2313	99.5	419	5 AAU99085	AAU99085 Human pro
95	2313	99.5	419	5 AAU99044	AAU99044 Human pro
96	2313	99.5	419	5 AAU99054	AAU99054 Human pro
97	2313	99.5	419	5 AAU99065	AAU99065 Human pro
98	2313	99.5	419	5 AAU99065	AAU99065 Human pro

RESULT 1	PR	14-MAR-2000; 2000US-0189197P.
AAB82673	XX	
ID	PA	(ELIT ) LILLY & CO ELI.
AAB82673 standard; protein; 419 AA.	XX	
AC	PI	Gerlitz BE, Jones BE;
AAB82673;	XX	
XX	DR	WPI; 2001-496919/54.
D7	DR	N-PSDB; AAB26361.
15-OCT-2001 (first entry)	XX	
XX	PT	Novel human protein C derivative for treating, e.g., myocardial
DE	PT	infarction, unstable angina, sepsis, thrombotic disorders, acute arterial
Wild-type human protein C.	XX	thrombotic occlusion, and thromboembolism.
XX	PS	Claim 1; Page 49-50; 63pp; English.
Protein C; human; coronary syndrome; thrombosis; angina;	XX	
myocardial infarction; vascular occlusive disorder; hypercoagulation;	XX	
sepsis; protein C deficiency; occlusion; thromboembolism; stenosis;	XX	
antibacterial; immunosuppressive; thrombolytic; cardiac; antianginal;	XX	
anticoagulant; therapy.	XX	
XX	CC	The present sequence is that of human protein C mature polypeptide. The

SQ Sequence 419 AA;

QY 1 ANSFLEETRHSLECEIEICDFEBAKEIFQNVDDTLAFWSKHDVGDQCLVLPLEHPCA 600

1 ANSFLEELRHSSLERECIEEICDFEEAKEIFQVNDTLAFMSKHVDGDLVPLEHPCA 60

61 SLCCGHCIDIGSFSDCRSGWEGRFQREVSFLNCSLDNGGCIHCLBEEVGMKRC3C 12

01 3ACCGAGCICIDG1G9F6CDCAKCBMFEANFCQKAEBVONIENCSNCEHMCSCSIIIIIICBBIYCHIAUUCBC 1A

[illegible]

**דבר זה נחשב כהכרה**

81 СТОВОТТИ ДСКИНТ ТАСАВТ ТИДСАВТ ТААХМСЕСКИ ТУПІ-СРВДІ-БРВЕКВЕІ-НІ ДІ 24

241 KEVEHPNYSKSTTDNDIATLHLAOPATLSOTIVPICIPDSGLAEERELNOAGOETLV<sup>TM</sup> 30

2241 KEVFVHPNYSKSTTDNDIALHLAQPATLSQTIVIPICLPDGLAERELNQAQETLVLTGW 30

301 GYHSSREKEAKRNTEVTFNFIKIPVPEHNECEVMSNMVSENMLCAGILGDRÖDACEGDS 36

301 GYHSSREKEAKRNTFVLNFIKIPVPHNECEVMSNMVSENMLCAGILGDRQDACEGDS 36

361 CGEMVASFHGTWELVGLVSWEGCCGLHNYGVYTKVSRYLDMIGHIRDKCAPQKSWAP 411

RESULT 2  
AAB36894  
ID AAB36894 standard; protein; 419 AA

AC AAB36894;

DT 26-FEB-2001 (first entry,  
YY

DE Human protein C derivative 1.1

deep vein thrombosis; sickle cell; thalassemia; thrombotic disorders; kw

XX

OS Homo sapiens

PN WO200066754-A1  
XX

PD 09-NOV-2000  
XY

PF 13-APR-2000; 2000MC-05008/22  
XX

[illegible][illegible]

XX  
XX  
0001 007227 / 01  
FBI

DR N-PSDB; AAC83311.  
YY

PT hypercoagulable state, thrombotic disorder and disease states

[illegible]

XX

CC The present invention relates to a human protein C derivative. The  
CC protein is useful for treating vascular occlusive disorders,  
CC hypercoagulable states such as sepsis, disseminated intravascular  
CC coagulation, purpura fulminans, major trauma, major surgery, burns, adult  
CC respiratory distress syndrome, transplantation, deep vein thrombosis,  
CC heparin-induced thrombocytopenia, sickle cell disease, thalassemia, viral  
CC hemorrhagic fever, thrombotic thrombocytopenic purpura, and hemolytic  
CC uremic syndrome, and also useful for treating thrombotic disorders and  
CC acute coronary syndromes such as myocardial infarction, unstable angina,  
CC and stroke. Protein C derivatives with amino acid substitutions result in  
CC increased resistance to inactivation by serpins when compared to wild-  
CC type activated human protein C. They also have longer half-lives in human  
CC blood and hence require either less frequent administration and/or  
CC smaller dosage than wild type human protein C for treating disorders  
XX  
XX Sequence 419 AA,  
SQ

Query Match	100.0%;	Score 2324;	DB 4;	Length 419;
Best Local Similarity	100.0%;	Pred. No. 3e-143;		
Matches 419;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0;

1 ANSFLEELRHSLECEIEICDFEAKETQNVDTLAFWSKHVDGDCVLPLEHPCA 60  
QY

Db 1 ANSFLEELRHSSLERECIEEICDFEEAKELFQNVDDTLAFWSKHVBDGQCLVLELHPCA 80

61 SLCCGHTCIDBISFSCDKRSGWEGKFCQREVSFLNCSLDNGGCIHICLDEVSMAKCC

**PB**

**B1 SLCGNGI.CIDPDI9SF0CDPCNOBFHONK CYAN VBI MARCZ87-06-----**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1

181 EPWOYTTI DSKKRI AGGAVI THPSWT TAHCMEDESKKLVRLG EYDPRWEKNELDIDI 2

241 KEVFVHPNYSKSTTDNDIALHLAQPATLSQTI VPICLPDSGLAERELNQAQETLVTGW 3

Db 241 KEFVHPNYSKSTTDNDIALHLIAQPATLSQTI VPICLPDSGLAERELNQAQETLVTGW 3

QY 301 GYHSSREKEAKRNTFVJNFIKIPVPHNECEVMSNVSENLTCAGILGDRQDACEGDS 3

D5 301 GYHSSREKEAKRNTFVLNFIKIPVVPHNECSEVMNMVSENMLCAGILGDRQDACEGDS 3

QY 361 CGPMVASFHGTWELVGLVSNGEGCGLLNHYGVYIKVSKRIIDWIMGHICKLAEAFQNSWAF 31

Dd 361 GGPMVASHEHGIMFLVGLVSMBEGGDLNINIGVILNVKIDLDNTLHCHLWQYD.....

## RESULT 3

ID AAE08625 standard; protein; 419 AA.

AC AAE08625;

DT 01-NOV-2001 (first entry)

DE Human mature wild type protein C.

Human; protein C derivative; anticoagulation activity; thrombosis; sepsin inactivation; acute coronary syndrome; myocardial infarction; vascular occlusive disorder; hypercoagulable state; angina; sepsis; disseminated intravascular coagulation; DIC; burn; transplantation; sickle cell disease; viral haemorrhagic fever; protein C deficiency; haemolytic uremic syndrome; acute arterial thrombotic occlusion; thromboembolism; prothrombotic disorder; gene therapy; thalassemia.

OS Homo sapiens.

PN MO200159084-A1.

PD 16-AUG-2001.

PF 02-FEB-2001; 2001WO-US001221.

PR 11-FEB-2000; 2000US-0181948P.

PR 14-MAR-2000; 2000US-0189199P.

PA (ELIL ) LILLY &amp; CO ELI.

PI Gerlitz BE, Grinnell BM, Jones BE;

DR WPI, 2001-514662/56.

DR N-PSDB; AAD15223.

PT Protein C derivative for treating acute coronary syndromes, vascular

PT occlusive disorders, thrombotic disorders and sepsis, comprises

PT substitutions at specified amino acid positions.

PS Claim 1; Page 43-44; 59pp; English.

The invention relates to human protein C derivatives and nucleic acid molecules encoding such derivatives. These derivatives have increased anticoagulation activity, resistance to sepsin inactivation and increased sensitivity to thrombin activation compared to wild type protein C, and retain the biological activity of the wild type human protein C. Protein C derivatives are useful in the manufacture of a medicament for the treatment of acute coronary syndromes e.g. myocardial infarction and unstable angina; and disease states predisposing to thrombosis; vascular occlusive disorders and hypercoagulable states e.g. disseminated intravascular coagulation (DIC), burns, transplantations, thalassemia, sickle cell disease, viral haemorrhagic fever and haemolytic uremic syndrome; sepsis in combination with bacterial permeability increasing protein; thrombotic disorders in combination with an anti-platelet agent; protein C deficiency; acute arterial thrombotic occlusion, CC thromboembolism or stenosis in coronary, cerebral or peripheral arteries CC or in vascular grafts in combination with a thrombolytic agent. Nucleic acid molecules of the invention are useful for treating humans with genetically predisposed prothrombotic disorders by gene therapy. The present sequence is human mature wild type protein C

SQ Sequence 419 AA;

Query Match

Best Local Similarity 100.0%; Score 2324; DB 4; Length 419;

Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

1 ANSFLERHSSLEBCEIEICDFEPAKEIFQNVDDTLAFMSKRVDSQCLVLEHPCA 60

1 ANSFLERHSSLEBCEIEICDFEPAKEIFQNVDDTLAFMSKRVDSQCLVLEHPCA 60

61 SLCCGAGTCLDIGISFCDCKRSGWGRFCQREVSPFLNCSLDNGGCTHYCLEBVGWRKCSG 120

61 SLCCGAGTCLDIGISFCDCKRSGWGRFCQREVSPFLNCSLDNGGCTHYCLEBVGWRKCSG 120

121 APGKLGDDLIQCHPAVKPCGPKWMEKRSHTLRDTEDEQDVPRLLDGKTRRD 180

121 APGKLGDDLIQCHPAVKPCGPKWMEKRSHTLRDTEDEQDVPRLLDGKTRRD 180

181 SPWQVLLDSKKKLACAVLHPSWLFAHCWDESKLLVLAGEDLRMEKELDLDI 240

181 SPWQVLLDSKKKLACAVLHPSWLFAHCWDESKLLVLAGEDLRMEKELDLDI 240

241 KEVFAHNSKSTDDNDIALHLAQPATLSQTVICLPDPSGLARELNQAGETLVGM 300

241 KEVFAHNSKSTDDNDIALHLAQPATLSQTVICLPDPSGLARELNQAGETLVGM 300

301 GHSSSEKAKNRTPYANTIKTPVFNNECEVMSNMVSENNLCAGTLGRQACGDS 360

301 GHSSSEKAKNRTPYANTIKTPVFNNECEVMSNMVSENNLCAGTLGRQACGDS 360

361 GGPWVASPFGTWFLVGLVSWGECGLANNYGVTYKRYLWTHGHRDKEAPQKSWAP 419

361 GGPWVASPFGTWFLVGLVSWGECGLANNYGVTYKRYLWTHGHRDKEAPQKSWAP 419

## RESULT 4

ID AAU99002 standard; protein; 419 AA.

AC AAU99002;

DT 23-AUG-2002 (first entry)

DE Human Protein C zymogen protein.

Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;

serum half-life; chromosome 2q13-q14; stroke; myocardial infarction; DIC;

after venous thrombosis; disseminated intravascular coagulation; DIC;

sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;

bone marrow transplantation; major surgery; trauma; ARDS; coagulant;

adult respiratory distress syndrome; alpha-1 antitrypsin.

Human Protein C zymogen protein.

Human Protein C zymogen protein.

Human Protein C zymogen protein.

Human Protein C zymogen protein.

Human Protein C zymogen protein.

Human Protein C zymogen protein.

Human Protein C zymogen protein.

Human Protein C zymogen protein.

Human Protein C zymogen protein.

Human Protein C zymogen protein.

Human Protein C zymogen protein.

Human Protein C zymogen protein.

Human Protein C zymogen protein.

Novel conjugate useful for treating or preventing septic shock, stroke

PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.

PS Claim 2; Page 79-81; 92pp; English.

XX The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (p) where (p) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln/  
 CC Tyr303Ser/Ala/Thr/His/Leu/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents zymogen  
 CC protein C upon which the variants of the invention were based

XX Sequence 419 AA;

Query Match 100.0%; Score 2324; DB 5; Length 419;

Best Local Similarity 100.0%; Pred. No. 3e-143;

Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLEELRHSLSRECEIEICDFEBAKEIFQNVDDTLAFMSKXVDGQCLVPLHPCA 60  
 DB 1 ANSFLEELRHSLSRECEIEICDFEBAKEIFQNVDDTLAFMSKXVDGQCLVPLHPCA 60  
 QY 61 SLCCGHCCTIDIGISFSCDCRSWGEGRCQREVSFLNCSLNGGCTHYCLEVGMRRSC 120  
 DB 61 SLCCGHCCTIDIGISFSCDCRSWGEGRCQREVSFLNCSLNGGCTHYCLEVGMRRSC 120  
 QY 121 AGGYLGDLDLQCHPAVKPCGAPKMEKRSKRLKPDTEQEDQVDPPLIDGKTRRGD 180  
 DB 121 AGGYLGDLDLQCHPAVKPCGAPKMEKRSKRLKPDTEQEDQVDPPLIDGKTRRGD 180  
 QY 181 SPQVVLIDSKKCLAGAVLHPSVWLTAAHCDSESKLLVRLCEYDLRRMEKELDDI 240  
 DB 181 SPQVVLIDSKKCLAGAVLHPSVWLTAAHCDSESKLLVRLCEYDLRRMEKELDDI 240  
 QY 241 KEVFHPVYSKTTDDIALHLAQPATLSQTVPLCLPDSGLAERLINAQOETLVGM 300  
 DB 241 KEVFHPVYSKTTDDIALHLAQPATLSQTVPLCLPDSGLAERLINAQOETLVGM 300  
 QY 301 GHSSREKEAKRNTFLVNFIKIPVPHNECSFWSNMVSENLCAIIGDRDACEGS 360  
 DB 301 GHSSREKEAKRNTFLVNFIKIPVPHNECSFWSNMVSENLCAIIGDRDACEGS 360  
 QY 361 GGPVYASFTGWTPLVGLVSWGEGCLLANTGYTKSRILDMIGHIRDEKAPQKSNAP 419  
 DB 361 GGPVYASFTGWTPLVGLVSWGEGCLLANTGYTKSRILDMIGHIRDEKAPQKSNAP 419

DB 361 GGPVYASFTGWTPLVGLVSWGEGCLLANTGYTKSRILDMIGHIRDEKAPQKSNAP 419

RESULT 5  
 ABR55547  
 ID ABR55547 standard; protein; 419 AA.

AC ABR55547;

DT 11-AUG-2003 (first entry)

DE Amino acid sequence of mature human protein C (PC).

XX Protein C; coagulation; thrombin; fibrinogen; A: serine protease;  
 KW antithrombotic; antiinflammatory; antiapoptotic; profibrinolytic;  
 KM hypercoagulable disease; thrombosis; myocardial infarction;  
 KM pulmonary embolism; reocclusion; angioplasty; thrombomodulin.

OS Homo sapiens.

XX Key Location/Qualifiers

FT Region 1..157 "light chain"

FT Active-site 158..169

FT Region 170..419

FT /note= "heavy chain"

XX FR831170-A1.

XX 25-APR-2003.

XX 19-OCT-2001; 2001FR-00013492.

XX 19-OCT-2001; 2001FR-00013492.

XX (INEM ) INSERM INST NAT SANTE & RECH MEDICALE.

XX Le Bonnes B, Marque BE, Louvain V, Calmel C, Bianchini E,

XX Ailach M;

XX WPI; 2003-451127/43.

PT New chimeric protein, cleavable by thrombin, useful e.g. as  
 PT antithrombotic agents, particularly modified protein C containing  
 PT artificial activation sequence.

PS Disclosure; Fig 1; 51pp; French.

XX The present sequence represents the mature form of human protein C. This  
 CC protein is an essential factor in the regulation of coagulation. The  
 CC specification describes a chimeric protein, based on protein C, which  
 CC comprises a thrombin-cleavable artificial sequence. This artificial  
 CC sequence is of a formula given in the specification, and comprises a  
 CC peptide from fibrinogen, and a thrombin-cleavage site, other than  
 CC that of the alpha-chain of fibrinogen. The chimeric protein with  
 CC protease derivatives obtained by cleaving the chimeric protein with  
 CC thrombin, are useful as antithrombotic, antiinflammatory, antiapoptotic  
 CC and profibrinolytic agents, for treatment or prevention of  
 CC hypercoagulable diseases, e.g. venous and arterial thrombosis;  
 CC myocardial infarction; pulmonary embolism; reocclusion after angioplasty  
 CC and alterations in the genes for protein C and thrombomodulin

XX Sequence 419 AA;

Query Match 100.0%; Score 2324; DB 6; Length 419;

Best Local Similarity 100.0%; Pred. No. 3e-143;

Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLEELRHSLSRECEIEICDFEBAKEIFQNVDDTLAFMSKXVDGQCLVPLHPCA 60  
 DB 1 ANSFLEELRHSLSRECEIEICDFEBAKEIFQNVDDTLAFMSKXVDGQCLVPLHPCA 60  
 QY 61 SLCCGHCCTIDIGISFSCDCRSWGEGRCQREVSFLNCSLNGGCTHYCLEVGMRRSC 120  
 DB 61 SLCCGHCCTIDIGISFSCDCRSWGEGRCQREVSFLNCSLNGGCTHYCLEVGMRRSC 120

Db 61 SLCCGGTCTIDIGISFSCDRCSGMGRFCQREVSFLNCSLDNGGCTHYCLAEVGMKRCSC 120  
 QY 121 APGYKLGDDLLQCHPAKPEPCGRPMKMEKKRSHLKRDEDEQDQVDPRLIDGKMTRRGD 180  
 Db 121 APGYKLGDDLLQCHPAKPEPCGRPMKMEKKRSHLKRDEDEQDQVDPRLIDGKMTRRGD 180  
 QY 181 SPWQVVLDSKKKLACGAVLIHPSWVLTAAQMDSEKSLVRLGEGYDRMEKWEELDDI 240  
 Db 181 SPWQVVLDSKKKLACGAVLIHPSWVLTAAQMDSEKSLVRLGEGYDRMEKWEELDDI 240  
 QY 241 KEVFEHPNYSKSTTDNDIALHLAOPATLSOTIVPICLPDSGLARELNQAGQETLVTCM 300  
 Db 241 KEVFEHPNYSKSTTDNDIALHLAOPATLSOTIVPICLPDSGLARELNQAGQETLVTCM 300  
 QY 301 GYHSREKAKRNRTFVLFNFIKIPVPHNECSEVSNMVSNNMLCAGILGDRQDACEGDS 360  
 Db 301 GYHSREKAKRNRTFVLFNFIKIPVPHNECSEVSNMVSNNMLCAGILGDRQDACEGDS 360  
 QY 361 GGPWVASFHGTWFLVGLVSWGEGCLHNYGYTKVSRYLDMHGHIDKXEAPOKSNAP 419  
 Db 361 GGPWVASFHGTWFLVGLVSWGEGCLHNYGYTKVSRYLDMHGHIDKXEAPOKSNAP 419

## RESULT 6

ID ADCA0014 standard; protein: 419 AA.

AC ADCA0014;

DT 18-DEC-2003 (first entry)

DE Human activated protein C-related protein #3.

XX human; activated protein C; aPC; thrombotic disorder;

KW intravascular coagulation; thrombotic stroke; deep vein thrombosis;

KW pulmonary embolism; peripheral arterial thrombosis;

OS Homo sapiens.

XX MO2003075834-A2.

PD 18-SEP-2003.

PF 27-FEB-2003; 2003MO-US005046.

PR 08-MAR-2002; 2002US-0363364P.

PA (ELI) LILLY & CO ELI.

PI Gopalratnam G, Huang L, Riggin RM, Sheliga TX;

DR WPI; 2003-722308/68.

PT Pharmaceutical composition comprising activated protein C and a chelating

PT agent useful for treating thrombotic disorders such as stroke, deep vein

PT thrombosis, pulmonary embolism and myocardial infarction.

PS Disclosure; SEQ ID NO 3; 29pp; English.

CC The invention comprises a pharmaceutical composition containing activated

CC protein C (aPC), a chelating agent and optionally a diluent. The

CC composition of the invention is useful for treating thrombotic disorders,

CC such as: intravascular coagulation, thrombotic stroke, deep vein

CC thrombosis, pulmonary embolism, peripheral arterial thrombosis, acute

CC myocardial infarction and retina thrombosis. The present amino acid

CC sequence represents a human protein that was used in the exemplification

SO Sequence 419 AA;

Query Match 100.0%; Score 2324; DB 7; Length 419;

Best Local Similarity 100.0%; Pred. No. 3e-143;  
 Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 ANSFLELNHSLRECEIEICDFEEANEIFQVNDTLAFMSKHYDQCLVPLEHPCA 60  
 Db 1 ANSFLELNHSLRECEIEICDFEEAKEIFQVNDTLAFMSKHYDQCLVPLEHPCA 60  
 QY 61 SLCCGGTCTIDIGISFSCDRCSGMGRFCQREVSFLNCSLDNGGCTHYCLAEVGMKRCSC 120  
 Db 61 SLCCGGTCTIDIGISFSCDRCSGMGRFCQREVSFLNCSLDNGGCTHYCLAEVGMKRCSC 120  
 QY 121 APGYKLGDDLLQCHPAKPEPCGRPMKMEKKRSHLKRDEDEQDQVDPRLIDGKMTRRGD 180  
 Db 121 APGYKLGDDLLQCHPAKPEPCGRPMKMEKKRSHLKRDEDEQDQVDPRLIDGKMTRRGD 180  
 QY 181 SPWQVVLDSKKKLACGAVLIHPSWVLTAAQMDSEKSLVRLGEGYDRMEKWEELDDI 240  
 Db 181 SPWQVVLDSKKKLACGAVLIHPSWVLTAAQMDSEKSLVRLGEGYDRMEKWEELDDI 240  
 QY 241 KEVFEHPNYSKSTTDNDIALHLAOPATLSOTIVPICLPDSGLARELNQAGQETLVTCM 300  
 Db 241 KEVFEHPNYSKSTTDNDIALHLAOPATLSOTIVPICLPDSGLARELNQAGQETLVTCM 300  
 QY 301 GYHSREKAKRNRTFVLFNFIKIPVPHNECSEVSNMVSNNMLCAGILGDRQDACEGDS 360  
 Db 301 GYHSREKAKRNRTFVLFNFIKIPVPHNECSEVSNMVSNNMLCAGILGDRQDACEGDS 360  
 QY 361 GGPWVASFHGTWFLVGLVSWGEGCLHNYGYTKVSRYLDMHGHIDKXEAPOKSNAP 419  
 Db 361 GGPWVASFHGTWFLVGLVSWGEGCLHNYGYTKVSRYLDMHGHIDKXEAPOKSNAP 419

## RESULT 7

ID AAP81104 standard; protein: 460 AA.

AC AAP81104;

DT 25-MAR-2003 (revised)

DT 16-SEP-1990 (first entry)

DE Sequence of human protein C.

XX Human protein C; plasmaid pPC 1.

OS Homo sapiens.

XX JP63263083-A.

PD 31-OCT-1988.

PF 21-APR-1987; 87JP-00096341.

PR 21-APR-1987; 87JP-00096341.

PA (FARH) HOECHST JAPAN LTD.

DR WPI; 1988-350711/49.

DR N-PSDB; AAN81408.

PT Human protein C gene - prepd. from new DNA having specified base

PT sequence.

PS Disclosure; Page 7; 16pp; Japanese.

CC The human protein C is expressed in large ants, using plasmaid pPC 1 in

CC E.coli K12/Om 225 (pEXM P-9297). (Updated on 25-MAR-2003 to correct PD

CC field.) (Updated on 25-MAR-2003 to correct PA field.)

SO Sequence 460 AA;

Query Match 100.0%; Score 2324; DB 1; Length 460;

Best Local Similarity 100.0%; Pred. No. 3.e-143;





FT Cleavage-site /note="links together the two processed chains"  
FT 197..198  
FT /note= "apparent processing site for connecting dipeptide"  
FT Cleavage-site 199..200  
FT /note= "apparent processing site for connecting dipeptide"  
FT Cleavage-site 211..212  
FT /note= "in heavy chain; converts to activated protein C"  
FT Disulfide-bond 238..254  
FT Modified-site 290  
FT /label= N-glycosylation site  
FT Modified-site 355  
FT /label= N-glycosylation site  
FT Modified-site 371  
FT /label= N-glycosylation site  
FT Disulfide-bond 373..387  
FT Disulfide-bond 398..426  
XX  
XX EPI5548-A.  
XX  
XX PD 25-MAR-1987.  
XX  
XX PF 26-JUN-1986; 86EP-00304970.  
XX  
XX PR 27-JUN-1985; 85US-00749600.  
XX PR 15-AUG-1985; 85US-00766109.  
XX  
XX PA (ZYMO ) ZYMOGENETICS INC.  
XX PA (UNIW ) UNIV WASHINGTON.  
XX  
XX PI Murray MJ, Berkner KL, Foster DC, Davie EW;  
XX  
XX DR WPI; 1987-081505/12.  
XX DR N-PSDB; AAN70102.  
XX  
XX PT Human protein C or activated protein C - prepd. using expression vector  
XX PT capable of integration in mammalian host cell DNA.  
XX  
XX BS Claim 4; Fig 4; 52pp; English.  
XX  
XX CC Recombinantly produced protein C can be used to treat thrombotic  
XX CC disorders such as venous thrombosis as it has anti-coagulant properties.  
XX CC The protein sequence is thought to yield two peptide chains; the first  
XX CC contains the Gla domain and growth factor domains and the second (the  
XX CC activation peptide) contains the catalytic domain. (Updated on 25-MAR-  
XX CC 2003 to correct PA field.)  
XX  
XX SQ Sequence 461 AA;  
  
Query Match 100.0%; Score 2324; DB 1; Length 461;  
Best Local Similarity 100.0%; Pred. No. 3.3e-143;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
  
QY 1 ANSFEEELHSSLERECIEICDFEAEKIFQVNDTLTAPMSKVDGQCLVPLEHPCA 60  
DB 43 ANSFEEELHSSLERECIEICDFEAEKIFQVNDTLTAPMSKVDGQCLVPLEHPCA 102  
QY 61 SLCCGCTGCTGSGSCDRSGWGRFCQGEVFLNCSLDNGGCTHCLBEVGMRRSC 120  
DB 103 SLCCGCTGCTGSGSCDRSGWGRFCQGEVFLNCSLDNGGCTHCLBEVGMRRSC 162  
QY 121 APGYKLGDDLLQCHPAVPCGRPMKEMKRSKLTKEDEDEQDVDPRLIDGKMTRRGD 180  
DB 163 APGYKLGDDLLQCHPAVPCGRPMKEMKRSKLTKEDEDEQDVDPRLIDGKMTRRGD 222  
QY 181 SPQVVLDSKKKACAGAVILHSWTLTAHQMDBSKLLVRLGVDLRRMEKVEDLDI 240  
DB 223 SPQVVLDSKKKACAGAVILHSWTLTAHQMDBSKLLVRLGVDLRRMEKVEDLDI 282  
QY 241 KEVVEPNYSKSTTDNDIALHLAOPATLSQTIYICLPDPSGLAREELNAGGTIVTGM 300  
DB 283 KEVVEPNYSKSTTDNDIALHLAOPATLSQTIYICLPDPSGLAREELNAGGTIVTGM 342

QY 301 GYHSSREKAEARRRTEVLFNIKIPVPHNECEVSNMVMSENMLCAGILGRQDACEGDS 360  
DB 343 GHSSREKAEARRRTEVLFNIKIPVPHNECEVSNMVMSENMLCAGILGRQDACEGDS 402  
QY 361 GGPVVASFHGTWPLVGLVSMGEGCGLAHNYGVYTKVSRYLDMIGHIRDEAPQKSMAP 419  
DB 403 GGPVVASFHGTWPLVGLVSMGEGCGLAHNYGVYTKVSRYLDMIGHIRDEAPQKSMAP 461  
  
RESULT 10  
AAP90401  
ID AAP90401 standard; protein; 461 AA.  
XX  
XX AC AAP90401;  
XX  
XX DT 25-MAR-2003 (revised)  
XX DT 01-NOV-1989 (first entry)  
XX  
XX DE Zymogen form of human protein C.  
XX  
XX KW Human protein C; zymogen form; activated C protein; human liver mRNA;  
XX KW signal peptide; propeptide; antithrombotic.  
XX  
XX OS Homo sapiens.  
XX  
XX PN EP323149-A.  
XX  
XX PD 05-JUL-1989.  
XX  
XX PF 22-DEC-1988; 88EP-00312201.  
XX  
XX PR 28-DEC-1987; 87US-00138009.  
XX  
XX PA (ELIL ) LILLY & CO ELI.  
XX  
XX PI Bang NU, Ehrlich HJ, Grimmel BW, Yan SB;  
XX  
XX DR WPI; 1989-19452/27.  
XX DR N-PSDB; AAN90187.  
XX  
XX PT New DNA encoding zymogen form of human protein C - and its activated  
XX PT deriv., useful as e.g. antithrombotic agents more sensitive to thrombin  
XX PT activation.  
XX  
XX PS Disclosure; Page 4 - 7; 65pp; English.  
XX  
XX CC This is the protein sequence of nascent human protein C encoded by the  
XX CC DNA of AAN90187, which is derived from cDNA clones prepd. from human  
XX CC liver mRNA. It comprises the following regions: residues 1-42 are the  
XX CC signal peptide and propeptide of human protein C; important for directing  
XX CC secretion and gamma-carboxylation of protein C; residues 43-197, once  
XX CC post-translational modified, constitute the light chain of both the  
XX CC two-chain zymogen and activated forms of protein C; residues 198-9 are  
XX CC believed to be removed (on basis of homology with bovine protein C),  
XX CC probably by a 2 step process comprising a first cleavage (either between  
XX CC residues 197-8 or 199-200), followed by carboxypeptidase or  
XX CC aminopeptidase action, to form 2 chain protein C; residues 200-211  
XX CC constitute the activation peptide, which is removed from the zymogen  
XX CC forms to obtain activated protein C; residues 212-461, once post-  
XX CC translationally modified, constitute the activated heavy chain of active  
XX CC protein C; and the heavy chain of the 2 chain form of protein C zymogen,  
XX CC once post-translational modified, is composed of residues 200-461.  
XX CC Protein C zymogen and activated protein C are regulators of haemostasis,  
XX CC differing from native protein C by increased sensitivity to activation by  
XX CC thrombin and thrombin/ chromodominin (even in presence of Ca ions) and  
XX CC longer in vivo half life. They are useful as on-demand antithrombotic  
XX CC agents, (replacements for heparin and hydroxycoumarins) and for treatment  
XX CC of hereditary protein C deficiency states. (Updated on 25-MAR-2003 to  
XX CC correct PA field.)  
XX  
XX SQ Sequence 461 AA;

TEIJIN LTD.  
(TEIJ )  
PPA  
XX

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FT peptide 1.:.42
FT /label= sig_peptide

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```

FT Protein 43. .461
FT /label= mat_protein
PN MO9109953-A.
XX
XX 11-JUL-1991.
PD
XX 29-DEC-1989; 89US-00459082.
XX
XX 29-DEC-1989; 89US-00459082.
XX
XX (ZYMO ) ZYMOGENETICS INC.
XX
XX Foster DC;
XX
XX WPI; 1991-222905/30.
DR
XX N-PSDB; AAQ12678.
XX
XX Recombinant prodn. of hybrid phospholipid-binding proteins - comprising
PT lipocortin phospholipid-binding domain and vitaminK-dependent protein.
XX
XX Disclousure; Fig 2; 57pp; English.
XX
XX This sequence, or a fragment of it, is used in the construction of hybrid
XX phospholipid-binding proteins (PBP) having the same biological activity
XX as human protein C or human activated protein C. The hybrid sequence
XX would comprise at least one lipocortin phospholipid binding domain (PBD),
XX e.g. of PAP-I, joined to a gla-domainless protein C or activated protein
XX C. See AAQ12680-81 for such examples. See also AAQ12678-81. (Updated on
XX 25-MAR-2003 to correct PA field.)
XX
XX Sequence 461 AA;
SQ
Query Match 100.0%; Score 2324; DB 2; Length 461;
Best Local Similarity 100.0%; Pred. No. 3,3e-143;
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 ANSTLELHSHSLRECECEIEICPEEAKETIQNDPLAFMSKVDGQCLVPLHPQA 60
DB 43 ANSTLELHSHSLRECECEIEICPEEAKETIQNDPLAFMSKVDGQCLVPLHPQA 102
QY 61 SLCCGHTCIDIGSFSGDCRSQMEGRFCQREVSFLNCSLDNCGCTHYCLEEVGMKRCSC 120
DB 103 SLCCGHTCIDIGSFSGDCRSQMEGRFCQREVSFLNCSLDNCGCTHYCLEEVGMKRCSC 162
QY 121 APGYKLGDDILQCHPAVPCGPRPMKMEKRSKSHUKOTDQDQYDPRLLIDGMTRREG 180
DB 163 APGYKLGDDILQCHPAVPCGPRPMKMEKRSKSHUKOTDQDQYDPRLLIDGMTRREG 222
QY 181 SPQGVVLLDSKXKCLACGAVLHPSPWVLTAAHGMDSKXKLVRLGEVDLRRMEKELDLDI 240
DB 223 SPQGVVLLDSKXKCLACGAVLHPSPWVLTAAHGMDSKXKLVRLGEVDLRRMEKELDLDI 282
QY 241 KEVVEHNVYSKSTTNDIALHLAQAATLSQTIIVEICLPDSGLAEELINQAQGETIVTGW 300
DB 283 KEVVEHNVYSKSTTNDIALHLAQAATLSQTIIVEICLPDSGLAEELINQAQGETIVTGW 342
QY 301 GYHSSREKEKAKRRTFVNFKIPVPHNEGCEVSNVSNVSENNLCAGLLGRONACRGDS 360
DB 343 GYHSSREKEKAKRRTFVNFKIPVPHNEGCEVSNVSNVSENNLCAGLLGRONACRGDS 402
QY 361 GGPVWVAFHGTFWFLVGLVSWGCGGLAHNYGVYTKVSYLDLWIGHIRIDKEAPQKSWAP 419
DB 403 GGPVWVAFHGTFWFLVGLVSWGCGGLAHNYGVYTKVSYLDLWIGHIRIDKEAPQKSWAP 461

```

RESULT 13  
AAR13074  
ID AAR13074 standard; protein; 461 AA.

AC AAR13074;  
XX  
DT 25-MAR-2003 (revised)

```

DT 02-OCT-1991 (first entry)
XX
XX Protein C precursor.
XX
XX Anticoagulant; fibrinolysis.
XX
XX Homo sapiens.
XX
XX Key
XX Peptide
XX 2. .42
XX /label= pre-pro peptide
XX 43. .197
XX /label= light chain
XX 43. .79
XX /label= Gla domain
XX 48
XX /label= gamma carboxyglutamic acid
XX 49
XX /label= gamma carboxyglutamic acid
XX 56
XX /label= gamma carboxyglutamic acid
XX 58
XX /label= gamma carboxyglutamic acid
XX 61
XX /label= gamma carboxyglutamic acid
XX 62
XX /label= gamma carboxyglutamic acid
XX 67
XX /label= gamma carboxyglutamic acid
XX 68
XX /label= gamma carboxyglutamic acid
XX 71
XX /label= gamma carboxyglutamic acid
XX 139
XX /label= N-glycosylation site
XX 197. .198
XX /label= proteolytic cleavage
XX 199. .200
XX /label= proteolytic cleavage
XX 201. .211
XX /label= activation peptide
XX 212. .461
XX /label= heavy chain
XX 250
XX /label= N-glycosylation site
XX 355
XX /label= N-glycosylation site
XX 371
XX /label= N-glycosylation site
XX
XX MO9109951-A.
XX
XX 11-JUL-1991.
XX
XX 22-DEC-1989; 89US-00456092.
XX
XX 22-DEC-1989; 89US-00456092.
XX
XX 22-DEC-1989; 89US-00456092.
XX
XX (ZYMO ) ZYMOGENETICS INC.
XX (TEIJ ) TEIJIN LTD.
XX
XX Foster DC, Holly RD, Suzuki M, Wakabayash K, Kumar AA;
XX
XX WPI; 1991-222903/30.
XX
XX N-PSDB; AAQ12649.
XX
XX Recombinant protein C with truncated light chain - for use as an
XX anticoagulant.
XX
XX Disclousure; Fig 1; 60pp; English.
XX
XX The sequence was deduced from a clone isolated from a cDNA library prepd.
XX from mRNA from Hep G2 cells. It is a protein C precursor, including light

```

CC and heavy chains, which is cleaved to produce activated protein C (see  
 CC feature table). The DNA encoding the sequence can be manipulated by  
 CC genetic engineering techniques to express a protein comprising (when  
 CC activated) a heavy chain and a truncated light chain comprising residues  
 CC 1-149, 1-150, 1-151 or 1-152 of the natural sequence. The protein pref.  
 CC comprises the precursor of formula: Pre-pro-I-X-H Pre-pro = pre-pro  
 CC peptide of protein C with all/part replaced by the corresponding peptide  
 CC of either protein S, factors VII, IX or X, or prothombin; I = Asn 1-149,  
 CC 150, 151 or 152 of light chain; X = 3-10 Lys/arg residues; and H = heavy  
 CC chain. Cells transformed with expression vectors contg. the modified DNA  
 CC sequences produce the new proteins which can be used to regulate  
 CC anticoagulant and fibrinolytic systems. See also M09112320 (AA13074).  
 CC (Updated on 25-MAR-2003 to correct PA field.)

CC Sequence 461 AA;

Query Match 100.0%; Score 2324; DB 2; Length 461;  
 Best Local Similarity 100.0%; Pred. No. 3,3e-143;  
 Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLEELRHSLSLRRCIEICDFEAKETPQNVDDTLAFMSKHVDGQCLVPLEHPCA 60  
 DB 43 ANSFLEELRHSLSLRRCIEICDFEAKETPQNVDDTLAFMSKHVDGQCLVPLEHPCA 102  
 QY 61 SLCCGHTCTIDIGSFCDSCRSQWEGFQOREVSLNCSLDNGGCTHYCLEEVGMRRCSG 120  
 DB 103 SLCCGHTCTIDIGSFCDSCRSQWEGFQOREVSLNCSLDNGGCTHYCLEEVGMRRCSG 162  
 QY 121 APGYKLGDDLQCHPAVFPQGRPMKMEKKSRLKRDTEDEQDVDPRLIDGKTRRGD 180  
 DB 163 APGYKLGDDLQCHPAVFPQGRPMKMEKKSRLKRDTEDEQDVDPRLIDGKTRRGD 222  
 QY 181 SPWQVVLDSKKKLCAGAVLIHPSWVLTAAHOMDESCKLIVRLGEYDLRRMEKELDLDI 240  
 DB 223 SPWQVVLDSKKKLCAGAVLIHPSWVLTAAHOMDESCKLIVRLGEYDLRRMEKELDLDI 282  
 QY 241 KEVFPHPNYSKSTTDNDIALHLAOPATLSQITVPICLPDSGLARELNQAGQETLVYTGW 300  
 DB 283 KEVFPHPNYSKSTTDNDIALHLAOPATLSQITVPICLPDSGLARELNQAGQETLVYTGW 342  
 QY 301 GYHSSREKAKNRFTVNLFIKIPVPHNECESEWMSNMVSENNLCAGILGDRQACGSDS 360  
 DB 343 GYHSSREKAKNRFTVNLFIKIPVPHNECESEWMSNMVSENNLCAGILGDRQACGSDS 402  
 QY 361 GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGYTTKVSRLDWHIGHIRDRKEAPQKSNAP 419  
 DB 403 GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGYTTKVSRLDWHIGHIRDRKEAPQKSNAP 461

RESULT 14  
 AAR34295  
 ID AAR34295 standard; protein; 461 AA.  
 AC AAR34295;  
 XX  
 DT 10-AUG-1993 (first entry)  
 XX  
 DE Protein C.  
 XX  
 KW Protein C; heavy chain; light chain; anticoagulating; fibrinolysis;  
 KM promoter; anticoagulant.  
 XX  
 OS Homo sapiens.  
 XX  
 FH Key Location/Qualifiers  
 FT Peptide 193..197  
 FT /label=C-terminal  
 FT /note="light chain"  
 FT 194..197  
 FT Peptide /label=C-terminal  
 FT /note="light chain"  
 FT 200..211  
 FT Peptide /label=N-terminal

FT /note="heavy chain"  
 FT 451..461  
 FT /label=C-terminal  
 FT /note="heavy chain"  
 FT 458..461  
 FT Peptide /label=C-terminal  
 FT /note="heavy chain"

JP05064588-A.

19-MAR-1993.

14-AUG-1991; 91JP-00228687.

14-AUG-1991; 91JP-00228687.

(TEIJ) TEIJUN LTD.

WPI; 1993-128866/16.

Human protein C and activated protein C with short H chains - useful as  
 PT anti-clotting agents and fibrinolysis promoters.

Disclosure, Fig 1; 8pp; Japanese.

CC A human protein C or an activated protein C has a H chain contg. one of  
 CC the residues 239-246 (= residues 450-457 in the sequence below) in the H  
 CC chain of natural activated protein C as the C-terminal, or has a L chain  
 CC contg. one of the residues 141-155 (= residues 141-155 in the sequence  
 CC below), pref. residues 149-155 (= residues 149-155 in the sequence below)  
 CC in the L chain of natural activated protein C as the C-terminal. The  
 CC human protein C or the activated protein C can be used as an anticoagulating  
 CC agent or a fibrinolysis promoter

XX Sequence 461 AA;

Query Match 100.0%; Score 2324; DB 2; Length 461;  
 Best Local Similarity 100.0%; Pred. No. 3,3e-143;  
 Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLEELRHSLSLRRCIEICDFEAKETPQNVDDTLAFMSKHVDGQCLVPLEHPCA 60  
 DB 43 ANSFLEELRHSLSLRRCIEICDFEAKETPQNVDDTLAFMSKHVDGQCLVPLEHPCA 102  
 QY 61 SLCCGHTCTIDIGSFCDSCRSQWEGFQOREVSLNCSLDNGGCTHYCLEEVGMRRCSG 120  
 DB 103 SLCCGHTCTIDIGSFCDSCRSQWEGFQOREVSLNCSLDNGGCTHYCLEEVGMRRCSG 162  
 QY 121 APGYKLGDDLQCHPAVFPQGRPMKMEKKSRLKRDTEDEQDVDPRLIDGKTRRGD 180  
 DB 163 APGYKLGDDLQCHPAVFPQGRPMKMEKKSRLKRDTEDEQDVDPRLIDGKTRRGD 222  
 QY 181 SPWQVVLDSKKKLCAGAVLIHPSWVLTAAHOMDESCKLIVRLGEYDLRRMEKELDLDI 240  
 DB 223 SPWQVVLDSKKKLCAGAVLIHPSWVLTAAHOMDESCKLIVRLGEYDLRRMEKELDLDI 282  
 QY 241 KEVFPHPNYSKSTTDNDIALHLAOPATLSQITVPICLPDSGLARELNQAGQETLVYTGW 300  
 DB 283 KEVFPHPNYSKSTTDNDIALHLAOPATLSQITVPICLPDSGLARELNQAGQETLVYTGW 342  
 QY 301 GYHSSREKAKNRFTVNLFIKIPVPHNECESEWMSNMVSENNLCAGILGDRQACGSDS 360  
 DB 343 GYHSSREKAKNRFTVNLFIKIPVPHNECESEWMSNMVSENNLCAGILGDRQACGSDS 402  
 QY 361 GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGYTTKVSRLDWHIGHIRDRKEAPQKSNAP 419  
 DB 403 GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGYTTKVSRLDWHIGHIRDRKEAPQKSNAP 461

RESULT 15  
 AAM02600  
 ID AAM02600 standard; protein; 461 AA.  
 XX

XX	Modified-site	290	/label= N-glycosylation_site
FT	Disulfide-bond	319	/note= "forms disulphide bond with Cys183"
FT	Modified-site	355	/label= N-glycosylation_site
FT	Modified-site	371	/label= N-glycosylation_site
FT	Disulfide-bond	373	/note= "forms disulphide bond with Cys187"
FT	Disulfide-bond	387	/note= "forms disulphide bond with Cys173"
FT	Disulfide-bond	398	/note= "forms disulphide bond with Cys426"
FT	Disulfide-bond	426	/note= "forms disulphide bond with Cys 398"
XX	US5516650-A.		
PN	14-MAY-1996.		
XX	08-APR-1994;	94US-00225253.	
XX	27-JUN-1985;	85US-00749600.	
PR	29-OCT-1986;	86US-00924462.	
PR	08-DEC-1987;	87US-00130370.	
PR	28-FEB-1989;	89US-00311205.	
PR	10-SEP-1990;	90US-00582131.	
PR	04-DEC-1992;	92US-00987532.	
XX	(ZYMO ) ZYMOGENETICS INC.		
PA	Murray MJ, Berkner KL, Foeter DC;		
XX	WPI; 1996-251006/25.		
DR	N-Psdbj; AAT32795, AAT32796.		
XX	New DNA encoding modified forms of opt. activated protein C - and related transformed cells for prodn. of recombinant protein C for use e.g. as an anti-thrombotic agent.		
PT	Example 1; Fig 2A-C; 34pp; English.		
PS	Human protein C (AA002600) is a zymogen of a serine protease that plays an important role in the regulation of blood coagulation and the generation of fibrinolytic activity in vivo. It is synthesised in the liver and processed to a 2-chain molecule, which is itself converted to activated protein C. Protein C and activated protein C are useful in the treatment of thrombotic disorders. They can be produced e.g. in mammalian host cells using a cDNA clone (AAT32795) derived from Hep G2 cells.		
CC	Variant protein C, modified to improve cleavage between the heavy and light chains of the circulating intermediate, can also be produced.		
CC	(Updated on 25-MAR-2003 to correct PF field.)		
XX	Sequence 461 AA:		
SQ	Query Match	100.0%; Score 2324; DB 2; Length 461;	
	Best Local Similarity	100.0%; Pred. No. 3, 3e-143;	
	Matches 413; Conservative	0; Mismatches 0; Indels 0; Gaps 0	
QY	1 ANSFLERLRHSLRECEBTEICDFEPAKEIFQNTDITLAFMSKHYDDOCLVPLEHCA	60	
DB	43 ANSFLELTRHSSLRECEBTEICDFEPAKEIFQNTDITLAFMSKHYDDOCLVPLEHPCA	102	
QY	61 SLTGGHGTCTDIGSGFSDDRSGMEGRFCOREVSFINLSINDGSGCTHYCLEEVGMRRSC	120	
DB	103 SLTGGHGTCTDIGSGFSDCRSGMERPFQGVESFINLSINDGSGCTHYCLEEVGMRRSC	162	
QY	121 AFGYKLGDLLQGHAVYFPFGSPWMRKERSHLIKEDTBDEDOVDPLIDSKMTRRGD	180	
DB	163 AGYKLGDDLQGHAVYFPFGSPWMRKERSHLIKEDTBDEDOVDVPLRIDSKMTRRGD	222	
QY	181 SPWQVVLDSKKKALACGAVLIHSWLTPAAMODESKULLVLGEYDLRMERKEIJDLDI	240	

Db 223 SPQVVLDSKXKLAAGAVLIHPSWVLTAAHOMDESXKLLVRLGSDLRMRKXKMLDLDI 282  
 QY 241 KEVFPVHNYSKSTTDNDIALHLAQPATLSQTIYVICTLPSGLARELNQAQETLVYTW 300  
 Db 283 KEVFPVHNYSKSTTDNDIALHLAQPATLSQTIYVICTLPSGLARELNQAQETLVYTW 342  
 QY 301 GYHSSREKAKRRRTFVNLFIKIPVPHNECEVSNMVSNNMLCAGILGDRQDACEGDS 360  
 Db 343 GYHSSREKAKRRRTFVNLFIKIPVPHNECEVSNMVSNNMLCAGILGDRQDACEGDS 402  
 QY 361 GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGYTKVSRYLDMTHGHIRDKKAPQKSNAP 419  
 Db 403 GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGYTKVSRYLDMTHGHIRDKKAPQKSNAP 461

RESULT 16  
 AAY49561  
 ID AAY49561 standard; protein; 461 AA.  
 XX

AC AAY49561;

XX 13-JAN-2000 (first entry)

DE Human lecithin cholesterol acyltransferase protein sequence.

KW Human; coding sequence polymorphism; vascular pathology gene;  
 KW polymorphic site; phenotype correlation; forensic; paternity testing;  
 KW medicine; genetic analysis; vascular disease.

OS Homo sapiens.

XX MO9950454-A2.

XX 07-OCT-1999.

XX 26-MAR-1999; 99MO-US006473.

XX 01-APR-1998; 98US-00054272.

XX (WHEED) WHITEHEAD INST BIOMEDICAL RES.

XX Lander ES, Daley GQ, Cargill M, Ireland JS, Rozen SG;

XX WPI; 1999-620066/53.

XX N-PSDB; AA32180.

FT Determination of polymorphisms in genes, especially those identifying  
 PT predisposition to vascular disease.

XX Disclosure; Fig 24; 134pp; English.

CC AA32159 to AA32194 represent reference alleles for specifically claimed  
 CC nucleic acid sequences from the present invention which comprise  
 CC polymorphic sites as given in a table in the specification, selected from  
 CC 92 single nucleotide polymorphisms in which the nucleotide at the  
 CC polymorphic site is different from a nucleotide at the same site in a  
 CC reference allele. The nucleic acids, and primers and probe, are used to  
 CC identify polymorphisms, which may predispose an individual to disease,  
 CC especially a vascular disease. They can also be used in phenotype  
 CC correlations, forensics, paternity testing, medicine or genetic analysis.  
 CC AA49550 to AAY49573 represent the proteins which correspond to some of  
 CC the reference alleles

XX Sequence 461 AA;

Query Match 100.0%; Score 2324; DB 2; Length 461;

Best Local Similarity 100.0%; Pred. No. 3.3e-143;  
 Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSELETRHSSLEFECIEICDPEAKEIFQVNDOTLAFMSKHYDGOCLVPLEHPCA 60  
 Db 43 ANSFLELRHSSLEFECIEICDPEAKEIFQVNDOTLAFMSKHYDGOCLVPLEHPCA 102

QY 61 SLCCGHTCIDIGSFSCDCRSQMEGRFCQREVSEFLNCSLDNGGCTHYCLBEVGMRCSC 120  
 Db 103 SLCCGHTCIDIGSFSCDCRSQMEGRFCQREVSEFLNCSLDNGGCTHYCLBEVGMRCSC 162  
 QY 121 APGKLGDDILQCHPAVAFPCGRPMWMEKRSKSHLKROTEDQEDQYDPLLDGKMTRRD 180  
 Db 163 APGKLGDDILQCHPAVAFPCGRPMWMEKRSKSHLKROTEDQEDQYDPLLDGKMTRRD 222  
 QY 181 SPQVVLDSKXKLAAGAVLIHPSWVLTAAHOMDESXKLLVRLGSDLRMRKXKMLDLDI 240  
 Db 223 SPQVVLDSKXKLAAGAVLIHPSWVLTAAHOMDESXKLLVRLGSDLRMRKXKMLDLDI 282  
 QY 241 KEVFPVHNYSKSTTDNDIALHLAQPATLSQTIYVICTLPSGLARELNQAQETLVYTW 300  
 Db 283 KEVFPVHNYSKSTTDNDIALHLAQPATLSQTIYVICTLPSGLARELNQAQETLVYTW 342  
 QY 301 GYHSSREKAKRRRTFVNLFIKIPVPHNECEVSNMVSNNMLCAGILGDRQDACEGDS 360  
 Db 343 GYHSSREKAKRRRTFVNLFIKIPVPHNECEVSNMVSNNMLCAGILGDRQDACEGDS 402  
 QY 361 GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGYTKVSRYLDMTHGHIRDKKAPQKSNAP 419  
 Db 403 GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGYTKVSRYLDMTHGHIRDKKAPQKSNAP 461

RESULT 17  
 AAB82674  
 ID AAB82674 standard; protein; 461 AA.  
 XX

XX AAB82674;

XX 15-OCT-2001 (first entry)

DE Wild-type human protein C.

KW Protein C; human; coronary syndrome; thrombosis; angina;  
 KW myocardial infarction; vascular occlusive disorder; hypercoagulation;  
 KW sepsis; protein C deficiency; occlusion; thromboembolism; stenosis;  
 KW antibacterial; immunosuppressive; thrombolytic; cardiact; antitanginal;  
 KW anticoagulant; therapy.

XX Homo sapiens.

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FT /note= "N-glycosylated"  
 FT Disulfide-bond 140..151  
 FT Disulfide-bond 162..175  
 FT Disulfide-bond 183..199  
 FT Disulfide-bond 198..199  
 FT /note= "cleavage makes a 2-chain inactive precursor (155-  
 FT amino acid light chain attached via a disulfide bond to a  
 FT 262-amino acid heavy chain)"  
 FT Peptide 200..211  
 FT /note= "activation peptide; removal activates the 2-chain  
 FT zymogen"  
 FT Cleavage-site 211..212  
 FT /note= "thrombin cleavage site"  
 FT Disulfide-bond 238..254  
 FT Modified-site 290  
 FT /note= "N-glycosylated"  
 FT Modified-site 355  
 FT /note= "N-glycosylated"  
 FT Modified-site 371  
 FT /note= "N-glycosylated"  
 FT Disulfide-bond 373..387  
 FT Disulfide-bond 398..426  
 XX  
 XX W020015793-A2.  
 XX  
 XX 09-AUG-2001.  
 XX  
 XX 19-JAN-2001; 2001WO-US000020.  
 XX  
 XX 02-FEB-2000; 2000US-0179801P.  
 XX 14-MAR-2000; 2000US-0189197P.  
 XX  
 XX (ELIL ) LILLY & CO ELI.  
 XX  
 XX Gerlitz BE, Jones BE;  
 XX  
 XX WPI: 2001-496919/54.  
 XX N-PSDB; AAB26362.  
 DR  
 PT Novel human protein C derivative for treating, e.g., myocardial  
 PT infarction, unstable angina, sepsis, thrombotic disorders, acute arterial  
 PT thrombotic occlusion, and thromboembolism.  
 XX  
 PS Disclosure; Page 50-52; 63pp; English.

XX The present sequence is that of human protein C prepro-polypeptide. The  
 CC invention relates to human protein C derivatives having at least 2 amino  
 CC acid substitutions, and to recombinant DNA molecules encoding such  
 CC derivatives. These derivatives have increased anticoagulant activity and  
 CC resistance to inactivation by serpins compared with wild-type human  
 CC protein C but retain the biological activity of the wild-type protein.  
 CC The amino acid substitutions are selected from H10Q, S11G, S12K, Q32E,  
 CC N33D, N33F, and amino acids at positions 194, 195, 228, 249, 254, 302, or  
 CC 316 of the mature protein C polypeptide substituted with Ser, Ala, Thr,  
 CC His, Lys, Leu, Arg, Asn, Asp, Glu, Gly or Gln (numbering relative to the  
 CC protein C mature protein sequence). Preferred protein C derivatives are  
 CC given in AAB2675-78. Also claimed are a vector comprising DNA encoding  
 CC the novel human protein C derivatives, transformed host cells and a  
 CC method of producing the human protein C derivatives. The protein C  
 CC derivatives are useful for treating coronary syndromes and disease states  
 CC predisposing to thrombosis (e.g. myocardial infarction and unstable  
 CC angina), vascular occlusive disorders and hypercoagulable states, sepsis  
 CC (in combination with bactericidal permeability increasing protein or with  
 CC tissue factor pathway inhibitor), thrombotic disorders (in combination  
 CC with an anti-platelet agent or by local delivery through an intracoronary  
 CC catheter), protein C deficiency, acute arterial thrombotic occlusion,  
 CC thromboembolism, or stenosis in coronary, cerebral or peripheral arteries  
 CC or in vascular grafts. Human patients with genetically predisposed  
 CC prothrombotic disorders may be treated by gene therapy (all claimed)

XX Sequence 461 AA;  
 SQ Query Match 100.0%; Score 2324; DB 4; Length 461;

Best Local Similarity 100.0%; Pred. No. 3.3e-143;  
 Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 ANSFLIEIRHSSLEBCEIEBICDFEANEIIFQVNDTTLAFNSKRYDQDCIVLPLEHPA 60  
 DB 43 ANSFLIEIRHSSLEBCEIEBICDFEANEIIFQVNDTTLAFNSKRYDQDCIVLPLEHPA 102  
 QY 61 SLCCGCTCIGDISFSCDCRSWGRFCQREVSPLNCSLNDGCTHCLSEYGMRRCS 120  
 DB 103 SLCCGCTCIGDISFSCDCRSWGRFCQREVSPLNCSLNDGCTHCLSEYGMRRCS 162  
 QY 121 APGYKLDGDLQCHPAKFPQGRPMKMEKRSHTLKDTEDEQDVDBRLIDGMRTRGD 180  
 DB 163 APGYKLDGDLQCHPAKFPQGRPMKMEKRSHTLKDTEDEQDVDBRLIDGMRTRGD 222  
 QY 181 SPQVVLDSKKKACAVLIHPSWTLPAACNDSEKLLVRLGEYDRLREKKEHLDLI 240  
 DB 223 SPQVVLDSKKKACAVLIHPSWTLPAACNDSEKLLVRLGEYDRLREKKEHLDLI 282  
 QY 241 KEVYVHPNYSKSTTDNDIALHLAOPATLSQTIYVICLPDPSGLARELNQAGETLVGM 300  
 DB 283 KEVYVHPNYSKSTTDNDIALHLAOPATLSQTIYVICLPDPSGLARELNQAGETLVGM 342  
 QY 301 GYHSSEKAKENRTFYVNFKIPVPHNECSYVSNVSENNLCAGLIGRQDACEGS 360  
 DB 343 GYHSSEKAKENRTFYVNFKIPVPHNECSYVSNVSENNLCAGLIGRQDACEGS 402  
 QY 361 GGPVVASFFGTWELVGLVSGCGGLHNQVYKYSRYDMTHGHIDKRAPQKSNAP 419  
 DB 403 GGPVVASFFGTWELVGLVSGCGGLHNQVYKYSRYDMTHGHIDKRAPQKSNAP 461

RESULT 18  
 AAB36895  
 ID AAB36895 standard; protein; 461 AA.  
 XX  
 XX AAB36895;  
 XX  
 XX 26-FEB-2001 (first entry)  
 XX  
 XX Human protein C derivative 2.  
 DB  
 DE Protein C; human; vascular occlusive; burn; transplantation;  
 KW deep vein thrombosis; sickle cell; thalassemia; thrombotic disorders;  
 KW myocardial infarction; angina; stroke.  
 XX  
 XX Homo sapiens.  
 OS  
 XX W0200066754-A1.  
 PN  
 XX 09-NOV-2000.  
 PD  
 XX 13-APR-2000; 2000WO-US008722.  
 PF  
 XX 30-APR-1999; 99US-013801P.  
 PR  
 XX (ELIL ) LILLY & CO ELI.  
 PA  
 XX Gerlitz BE, Jones BE;  
 XX  
 XX WPI: 2001-007227/01.  
 DR N-PSDB; AAC83312.  
 XX  
 XX Protein C derivatives, useful for treating vascular occlusive disorder,  
 PT hypercoagulable state, thrombotic disorder and disease states  
 PT predisposing thrombosis, comprises specific amino acid substitutions.  
 XX  
 XX Claim 1; Page 44-46; 57pp; English.  
 PS  
 CC The present invention relates to a human protein C derivative. The  
 CC protein is useful for treating vascular occlusive disorders,  
 CC hypercoagulable states such as sepsis, disseminated intravascular  
 CC coagulation, purpura fulminans, major trauma, major surgery, burns, adult

CC respiratory distress syndrome, transplantation, deep vein thrombosis,  
 CC heparin-induced thrombocytopenia, sickle cell disease, thalassemia, viral  
 CC hemorrhagic fever, thrombotic thrombocytopenic purpura, and hemolytic  
 CC urtic syndrome, and also useful for treating thrombotic disorders and  
 CC acute coronary syndromes such as myocardial infarction, unstable angina,  
 CC and stroke. Protein C derivatives with amino acid substitutions result in  
 CC increased resistance to inactivation by sepsin when compared to wild-  
 CC type activated human protein C. They also have longer half-lives in human  
 CC blood and hence require either less frequent administration and/or  
 CC smaller dosage than wild type human protein C for treating disorders  
 XX  
 XX Sequence 461 AA:

Query Match 100.0%; Score 2324; DB 4; Length 461;  
 Best Local Similarity 100.0%; Pred. No. 3.3e-143; Indels 0; Gaps 0;  
 Matches 419; Conservative 0; Mismatches 0;

QY 1 ANSFLELRHSLSRECEIEICDFEAKETIFONVDDTLAFMSKHYDQCLVPLEHPCA 60  
 DB 43 ANSFLELRHSLSRECEIEICDFEAKETIFONVDDTLAFMSKHYDQCLVPLEHPCA 102  
 QY 61 SLCCGHTCIDIGISFSCDRSGWEGRFQREVSFLNCSLDNGGCTHYCLEEVGMRRCSC 120  
 DB 103 SLCCGHTCIDIGISFSCDRSGWEGRFQREVSFLNCSLDNGGCTHYCLEEVGMRRCSC 162  
 QY 121 APGYKGGDLLQCHPAVKEPCGRPMKMEKRSKSLKRTDEDDQVDPRLIDGKMTRRGD 180  
 DB 163 APGYKGGDLLQCHPAVKEPCGRPMKMEKRSKSLKRTDEDDQVDPRLIDGKMTRRGD 222  
 QY 181 SPMQVVLDSKKKACGAVLIHPSWVLTAAHCDMSKSLVRLGEYDLRMEKWEILDLDI 240  
 DB 223 SPMQVVLDSKKKACGAVLIHPSWVLTAAHCDMSKSLVRLGEYDLRMEKWEILDLDI 282  
 QY 241 KEVFHNPYSKSTTNDIALHLAQPATLSQTIIVICLPDPSGLARELNQAGETIYVTGW 300  
 DB 283 KEVFHNPYSKSTTNDIALHLAQPATLSQTIIVICLPDPSGLARELNQAGETIYVTGW 342  
 QY 301 GYHSREKAKRNRTFVNFIKIPVPHNECEVMSNMVSENNLCAGILGRDQACRGS 360  
 DB 343 GYHSREKAKRNRTFVNFIKIPVPHNECEVMSNMVSENNLCAGILGRDQACRGS 402  
 QY 361 GGPWVASFHGTWFLVGLVSWGEGCGLAHNYGYTKVRYLDMIGHIRDKENAPKSNAP 419  
 DB 403 GGPWVASFHGTWFLVGLVSWGEGCGLAHNYGYTKVRYLDMIGHIRDKENAPKSNAP 461

RESULT 19  
 ID AAE08626 standard; protein; 461 AA.  
 XX AAE08626;  
 AC AAE08626;  
 XX  
 DT 01-NOV-2001 (first entry)  
 XX  
 DE Human wild type protein C.

XX Human, protein C derivative; anticoagulation activity; thrombosis;  
 XX serpin inactivation; acute coronary syndrome; myocardial infarction;  
 XX vascular occlusive disorder; hypercoagulable state; angina; sepsis;  
 XX disseminated intravascular coagulation; DIC; burn; transplantation;  
 XX sickle cell disease; viral haemorrhagic fever; protein C deficiency;  
 XX haemolytic uremic syndrome; acute arterial thrombotic occlusion;  
 KW thrombocytopenia; prothrombotic disorder; gene therapy; thalassemia.  
 XX  
 XX Homo sapiens.  
 OS  
 XX  
 FH Key Location/Qualifiers  
 FT Peptide 1..42  
 FT Protein /label= signal\_peptide  
 FT /label= Mature\_human\_wild\_type\_protein\_C  
 XX  
 XX PN WC020159084-A1.

XX  
 PD 16-AUG-2001.  
 XX  
 XX 02-FEB-2001; 2001MO-US001221.  
 XX  
 XX 11-FEB-2000; 2000US-0181948P.  
 PR 14-MAR-2000; 2000US-0189199P.  
 XX  
 PA (BLI) LILLY & CO ELL.  
 XX  
 PI Gerlitz BE, Grimmel BW, Jones BE,  
 DR WPI; 2001-51462/56.  
 DR N-PSDB; AAD15224.  
 PT Protein C derivative for treating acute coronary syndromes, vascular  
 PT occlusive disorders, thrombotic disorders and sepsis, comprises  
 PT substitutions at specified amino acid positions.  
 PS Disclosure, Page 44-46; 59pp; English.

CC The invention relates to human protein C derivatives and nucleic acid  
 CC molecules encoding such derivatives. These derivatives have increased  
 CC anticoagulation activity, resistance to serpin inactivation and increased  
 CC sensitivity to thrombin activation compared to wild type protein C, and  
 CC retains the biological activity of the wild type human protein C. Protein  
 CC C derivatives are useful in the manufacture of a medicament for the  
 CC treatment of acute coronary syndromes e.g. myocardial infarction and  
 CC unstable angina; and disease states predisposing to thrombosis; vascular  
 CC occlusive disorders and hypercoagulable states e.g. disseminated  
 CC intravascular coagulation (DIC), burns, transplantations, thalassemia,  
 CC sickle cell disease, viral haemorrhagic fever and haemolytic uremic  
 CC syndrome; sepsis in combination with bacterial permeability increasing  
 CC protein; thrombotic disorders in combination with an anti-platelet agent;  
 CC protein C deficiency; acute arterial thrombotic occlusion.  
 CC thrombocytopenia or stenosis in coronary, cerebral or peripheral arteries  
 CC or in vascular grafts in combination with a thrombolytic agent. Nucleic  
 CC acid molecules of the invention are useful for treating humans with  
 CC genetically predisposed prothrombotic disorders by gene therapy. The  
 CC present sequence is human wild type protein C

SQ Sequence 461 AA;  
 Query Match 100.0%; Score 2324; DB 4; Length 461;  
 Best Local Similarity 100.0%; Pred. No. 3.3e-143; Indels 0; Gaps 0;  
 Matches 419; Conservative 0; Mismatches 0;

QY 1 ANSFLELRHSLSRECEIEICDFEAKETIFONVDDTLAFMSKHYDQCLVPLEHPCA 60  
 DB 43 ANSFLELRHSLSRECEIEICDFEAKETIFONVDDTLAFMSKHYDQCLVPLEHPCA 102  
 QY 61 SLCCGHTCIDIGISFSCDRSGWEGRFQREVSFLNCSLDNGGCTHYCLEEVGMRRCSC 120  
 DB 103 SLCCGHTCIDIGISFSCDRSGWEGRFQREVSFLNCSLDNGGCTHYCLEEVGMRRCSC 162  
 QY 121 APGYKGGDLLQCHPAVKEPCGRPMKMEKRSKSLKRTDEDDQVDPRLIDGKMTRRGD 180  
 DB 163 APGYKGGDLLQCHPAVKEPCGRPMKMEKRSKSLKRTDEDDQVDPRLIDGKMTRRGD 222  
 QY 181 SPMQVVLDSKKKACGAVLIHPSWVLTAAHCDMSKSLVRLGEYDLRMEKWEILDLDI 240  
 DB 223 SPMQVVLDSKKKACGAVLIHPSWVLTAAHCDMSKSLVRLGEYDLRMEKWEILDLDI 282  
 QY 241 KEVFHNPYSKSTTNDIALHLAQPATLSQTIIVICLPDPSGLARELNQAGETIYVTGW 300  
 DB 283 KEVFHNPYSKSTTNDIALHLAQPATLSQTIIVICLPDPSGLARELNQAGETIYVTGW 342  
 QY 301 GYHSREKAKRNRTFVNFIKIPVPHNECEVMSNMVSENNLCAGILGRDQACRGS 360  
 DB 343 GYHSREKAKRNRTFVNFIKIPVPHNECEVMSNMVSENNLCAGILGRDQACRGS 402  
 QY 361 GGPWVASFHGTWFLVGLVSWGEGCGLAHNYGYTKVRYLDMIGHIRDKENAPKSNAP 419



DB 403 GGPVWASFHGTWLVGLVSWBGGGLHNYGVYTKYSRLDMHGHTRKAPQKSNAP 461  
RESULT 20  
AAU99001  
ID AAU99001 standard; protein; 461 AA.  
XX AAU99001;  
XX  
XX 23-AUG-2002 (first entry)  
XX  
XX Human Protein C precursor protein.  
XX  
XX Human; Protein C; N-glycosylation; APC; activated protein C; precursor;  
XX serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
XX after venous thrombosis; disseminated intravascular coagulation; DIC;  
XX sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
XX bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
XX adult respiratory distress syndrome; alpha-1 antitrypsin.  
XX  
XX Homo sapiens.  
XX  
XX Key Location/Qualifiers  
XX Peptide 1..42  
XX /label= Signal\_peptide  
XX Protein 43..461  
XX /label= Mature\_protein\_C  
XX Protein 43..197  
XX /label= Light\_chain  
XX Peptide 198..199  
XX /label= Lys\_Arg\_dipeptide  
XX Protein 200..461  
XX /label= Heavy\_chain  
XX Peptide 200..301  
XX /label= Activation\_peptide  
XX  
XX WO20022461-A2.  
XX  
XX 25-APR-2002.  
XX  
XX 15-OCT-2001; 2001WO-DK000679.  
XX  
XX 18-OCT-2000; 2000DK-00001560.  
XX 18-OCT-2000; 2000US-0242268P.  
XX 21-JUN-2001; 2001DK-00000970.  
XX 21-JUN-2001; 2001US-0300154P.  
XX  
XX (MAXY-) MAXYGEN APS.  
XX (MAXY-) MAXYGEN HOLDINGS LTD.  
XX  
XX Andersen KV, Pedersen AH, Friesgaard PO;  
XX WPI; 2002-489875/52.  
XX N-PSDB; ABK86038.  
XX  
XX Novel conjugate useful for treating or preventing septic shock, stroke  
XX and myocardial infarction, comprises non-polypeptide group covalently  
XX attached to protein C polypeptide comprising an attachment group.  
XX  
XX Example 4; Page 76-77; 92pp; English.  
XX  
XX The invention relates to a conjugate (I) comprising at least one non-  
XX polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
XX a protein C polypeptide comprising an amino acid sequence which differs  
XX from that of a parent protein C polypeptide (III) in at least one  
XX introduced and/or at least one removed amino acid residue comprising an  
XX attachment group for the non-polypeptide group (e.g. an N-glycosylation  
XX site). Also included are (1) a variant (IV) of (III) comprising a  
XX substitution in a position (p) where (p) is an amino acid with at least  
XX 25% of its side group exposed to the surface, with the proviso that the  
XX substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
XX Tyr32Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
XX His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding

CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
CC life or the serum half-life of a parent protein C polypeptide. The  
CC conjugates, variants and protein C proteins are useful as medicaments,  
CC and in the manufacture of medicaments for the treatment (and  
CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
CC transplantation, burns, pregnancy, major surgery/trauma or adult  
CC respiratory distress syndrome (ARDS). The variant protein C has an  
CC increased resistance to activation by e.g. human plasma and alpha-1  
CC antitrypsin. The conjugates have an increased in vivo half-life,  
CC increased serum half-life, increased resistance to inhibitors, reduced  
CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
CC The conjugate offers a number of advantages over the currently available  
CC APC products, including longer duration of action, fewer side effects. Moreover, a  
CC administration of less protein, and fewer side effects. Moreover, a  
CC reduced anticoagulant activity is beneficial to reduce the risk of  
CC bleeding while maintaining the antiinflammatory activity of APC  
CC (activated protein C) conjugates. This must be especially important when  
CC the conjugate has an extended plasma life. The gene for protein C is  
CC located on chromosome 2q13-q14. The present sequence represents pre-ursor  
CC protein C  
CC  
XX  
XX  
SQ Sequence 461 AA;  
Query Match 100.0%; Score 2324; DB 5; Length 461;  
Best Local Similarity 100.0%; Pred. No. 3.3e-143;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 ANSFLELNHSSLEKEIEICDFEAKKIFQNVDDTLTAFWSKRDGQCIYVLEHCA 60  
DB 43 ANSFLELNHSSLEKEIEICDFEAKKIFQNVDDTLTAFWSKRDGQCIYVLEHCA 102  
QY 61 SLCCGHCITCIDIGSFSCDCSGMGRFCQREYSLNCSLDNGGCHYCLEVGMRCSC 120  
DB 103 SLCCGHCITCIDIGSFSCDCSGMGRFCQREYSLNCSLDNGGCHYCLEVGMRCSC 162  
QY 121 APGYKLGDDLLQCHPAVFPQGRPMKRMKKRSHLKDTEODQDQVPLIDGKOTREGD 180  
DB 163 APGYKLGDDLLQCHPAVFPQGRPMKRMKKRSHLKDTEODQDQVPLIDGKOTREGD 222  
QY 181 SPWQVVLVDSKKKLCAGVLIHPSVYLTAAHQMDSKKLVRLGEVDLPRMKWEMLDLDI 240  
DB 223 SPWQVVLVDSKKKLCAGVLIHPSVYLTAAHQMDSKKLVRLGEVDLPRMKWEMLDLDI 282  
QY 241 KEVFNHNSKSTTNDLALHLAOPATLSOTTIVICLPDSGLARELNQAGQETLVGW 300  
DB 283 KEVFNHNSKSTTNDLALHLAOPATLSOTTIVICLPDSGLARELNQAGQETLVGW 342  
QY 301 GYHSSREKAKRRTFVNLFIKIPVPHNECSEVSNVSNVSNMLCAGIIGDRQDACEGDS 360  
DB 343 GYHSSREKAKRRTFVNLFIKIPVPHNECSEVSNVSNVSNMLCAGIIGDRQDACEGDS 402  
QY 403 GGPVWASFHGTWLVGLVSWBGGGLHNYGVYTKYSRLDMHGHTRKAPQKSNAP 461  
DB  
RESULT 21  
AAU99035  
ID AAU99035 standard; protein; 419 AA.  
XX AAU99035;  
XX  
XX 23-AUG-2002 (first entry)  
XX  
XX Human Protein C zymogen protein mutant S252N.  
XX  
XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
XX serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
XX after venous thrombosis; disseminated intravascular coagulation; DIC;  
XX sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;

KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 XX Key Location/Qualifiers  
 FT Protein 1..155  
 FT /label= Light\_chain  
 FT Peptide 156..157  
 FT /label= Lys\_Arg\_dipeptide  
 FT Protein 158..419  
 FT /label= Heavy\_chain  
 FT Peptide 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 252  
 FT /note= "Wild-type Ser substituted by Asn"  
 XX  
 XX W0200232461-A2.  
 XX  
 XX 25-APR-2002.  
 XX  
 XX 15-OCT-2001; 2001WO-DK000679.  
 XX  
 XX 18-OCT-2000; 2000DK-00001560.  
 XX 18-OCT-2000; 2000US-0242268P.  
 XX 21-JUN-2001; 2001DK-00000970.  
 XX 21-JUN-2001; 2001US-0300154P.  
 XX  
 XX (MAXY-) MAXYGEN APS.  
 XX (MAXY-) MAXYGEN HOLDINGS LTD.  
 XX  
 XX Andersen KV, Pedersen AH, Freskgaard PO;  
 XX  
 XX WPI; 2002-489875/52.  
 XX  
 XX Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 PT  
 XX  
 XX Claim 9; Page; 92pp; English.  
 XX  
 XX The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe16Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life of the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment and  
 CC diagnosis/prevention of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections, Moreover, a  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC

CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 XX SQ Sequence 419 AA;  
 XX  
 XX Query Match 99.9%; Score 2321; DB 5; Length 419;  
 XX Best Local Similarity 99.8%; Pred. No. 4.8e-143;  
 XX Matches 418; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
 XX  
 XX QY 1 ANSPFEEARHSRECEICEIFQVNDOTLAFMSKHVDQCVLPLEHPCA 60  
 XX 1 ANSPFEEARHSRECEICEIFQVNDOTLAFMSKHVDQCVLPLEHPCA 60  
 XX  
 XX QY 61 SLCCGHTCIDIGISFSCDGRSGWEGRCQREVSFLNCSLDNGCCTHYCLEEGRRCSC 120  
 XX 61 SLCCGHTCIDIGISFSCDGRSGWEGRCQREVSFLNCSLDNGCCTHYCLEEGRRCSC 120  
 XX  
 XX Db 121 ARGYKLDLQCHPAVKEPCGRPKMEKKRSHLRDEDEQDVPRLIDKMTRRGD 180  
 XX 121 ARGYKLDLQCHPAVKEPCGRPKMEKKRSHLRDEDEQDVPRLIDKMTRRGD 180  
 XX  
 XX QY 181 SPWQVLLDSKXKLCAGAVLHPBSVLTAAHCDSESKLVLAGBYDLRMEKMLDDI 240  
 XX 181 SPWQVLLDSKXKLCAGAVLHPBSVLTAAHCDSESKLVLAGBYDLRMEKMLDDI 240  
 XX  
 XX Db 181 SPWQVLLDSKXKLCAGAVLHPBSVLTAAHCDSESKLVLAGBYDLRMEKMLDDI 240  
 XX 181 SPWQVLLDSKXKLCAGAVLHPBSVLTAAHCDSESKLVLAGBYDLRMEKMLDDI 240  
 XX  
 XX QY 241 KEVFEHNYKSTTDNDIALHLAQPATLSQTVICLPDSGLARELNQAGETLVGM 300  
 XX 241 KEVFEHNYKSTTDNDIALHLAQPATLSQTVICLPDSGLARELNQAGETLVGM 300  
 XX  
 XX Db 241 KEVFEHNYKSTTDNDIALHLAQPATLSQTVICLPDSGLARELNQAGETLVGM 300  
 XX 241 KEVFEHNYKSTTDNDIALHLAQPATLSQTVICLPDSGLARELNQAGETLVGM 300  
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 XX QY 301 GHSSREKAKRNTFLNFIRKIPVPHNECEVMSNMVSEMLCAGILDRODACEGDS 360  
 XX 301 GHSSREKAKRNTFLNFIRKIPVPHNECEVMSNMVSEMLCAGILDRODACEGDS 360  
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 XX QY 361 GQPMVASFQGTWFLVGLVSWGEGCLHNYGVYTKVSRYLWIHGHIRDEAPQKSWAP 419  
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 XX Db 361 GQPMVASFQGTWFLVGLVSWGEGCLHNYGVYTKVSRYLWIHGHIRDEAPQKSWAP 419  
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 XX  
 XX RESULT 22  
 XX AAU99031  
 XX ID AAU99031 standard; protein; 419 AA.  
 XX  
 XX AC AAU99031;  
 XX  
 XX DT 23-AUG-2002 (first entry)  
 XX  
 XX XX Human Protein C zymogen protein mutant S250N.  
 XX  
 XX KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 XX OS Homo sapiens.  
 XX OS Synthetic.  
 XX  
 XX Key Location/Qualifiers  
 FT Protein 1..155  
 FT /label= Light\_chain  
 FT Peptide 156..157  
 FT /label= Lys\_Arg\_dipeptide  
 FT Protein 158..419  
 FT /label= Heavy\_chain  
 FT Peptide 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 250  
 FT /note= "Wild-type Ser substituted by Asn"

XX W0200232461-A2.  
 EN 25-APR-2002.  
 PD 15-OCT-2001; 2001MO-DK000679.  
 PF 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 PA (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 PI Andersen KV, Pedersen AH, Freshgaard PO;  
 DR WPI, 2002-489875/52.  
 XX Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 PS Claim 9; Page: 92pp; English.  
 XX The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe166Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (W2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX Sequence 419 AA;  
 SQ

Query Match 99.9%; Score 2321; DB 5; Length 419;  
 Best Local Similarity 99.8%; Pred. No. 4,8e-143;  
 Matches 418; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLELRHSLERCIEICDEPEAKRFQNVDDTLAPMSKIVDDQCVLPHEHCA 60  
 DB 1 ANSFLELRHSLERCIEICDEPEAKRFQNVDDTLAPMSKIVDDQCVLPHEHCA 60

QY 61 SLCCGHTCIDIGISFSCDCRSAGMEGRFCQREVSFLNCSLNDGGCTHYCLEEYGNRCSG 120  
 DB 61 SLCCGHTCIDIGISFSCDCRSAGMEGRFCQREVSFLNCSLNDGGCTHYCLEEYGNRCSG 120  
 QY 121 APGYKLGDDLLQCHPAVKEPCGRPKMEKRSKSLKRTDEDEQDVPRLLIDGKTRRD 180  
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 QY 181 SPQVYVLLDSKKKLAGAVT.IHPSVVLTAACHOMESKILVLRGEYDRMEKWEIDLDI 240  
 DB 181 SPQVYVLLDSKKKLAGAVT.IHPSVVLTAACHOMESKILVLRGEYDRMEKWEIDLDI 240  
 QY 241 KEVFEVFNYSKSTTDNDIALHIAQPATLSQTIPICLPDPSGLARELNQAQETLVTS 300  
 DB 241 KEVFEVFNYSKSTTDNDIALHIAQPATLSQTIPICLPDPSGLARELNQAQETLVTS 300  
 QY 301 GYHSSEKEAKENRTFVNFITKIPVPHNESEVMSNMSENLCAGLIGRODACEGS 360  
 DB 301 GYHSSEKEAKENRTFVNFITKIPVPHNESEVMSNMSENLCAGLIGRODACEGS 360  
 QY 361 GGPVWASFGTWELVGLVSNBGCGLLHNYGYTKVSRYLDMHGHIDKKAPOKSMAP 419  
 DB 361 GGPVWASFGTWELVGLVSNBGCGLLHNYGYTKVSRYLDMHGHIDKKAPOKSMAP 419

RESULT 23  
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 ID AAP81205 standard; protein; 461 AA.  
 XX  
 AC AAP81205;  
 XX  
 DT 25-MAR-2003 (revised)  
 DT 05-DEC-1990 (first entry)  
 XX  
 DE Human protein C.  
 XX  
 KM Human protein C; blood coagulation disorders.  
 XX  
 OS Homo sapiens.  
 XX  
 FH Key Location/Qualifiers  
 FT Peptide 71..199  
 FT /label= light chain peptide  
 FT Region 198..199  
 FT /label= linker di-peptide  
 FT Peptide 200..461  
 FT /label= heavy chain peptide  
 XX  
 PM EP266190-A.  
 PD 04-MAY-1988.  
 XX  
 PF 28-OCT-1987; 87EP-00309528.  
 XX  
 PR 29-OCT-1986; 86US-00924462.  
 XX  
 PA (ZYMO ) ZYMOGENETICS INC.  
 XX  
 PI Foster DC, Murray MJ, Berkner KL;  
 DR WPI; 1988-121259/18.  
 DR N-PSDB; AAN81563, AAN81564.  
 XX  
 PT Protein C DNA coding sequence and expression vector for prodn. - used for  
 PT treating blood coagulation disorders.  
 PS Disclosure; Page ?; 35pp; English.  
 XX  
 CC This protein C sequence is obt'd. upon transformation of mammalian host  
 CC cells with a recombinant DNA sequence comprising cDNA and genomic DNA  
 CC (minus introns) encoding protein C. The prod. collect-ed upon culturing  
 CC of the cells has substantially the same biologic- al activity as natural  
 CC protein C and is hence useful in the treat- ment of blood coagulation

ID	AA#0070	standard; protein; 461 AA.
XX	AA#0070;	
XX	25-MAR-2003 (revised)	
DT	01-NOV-1989 (first entry)	
XX		
DE	Human protein C.	
XX		
KM	Human protein C; anti-coagulant.	
OS		
XX	Homo sapiens.	
XX		
FH	Key	Location/Qualifiers
FT	Region	1..42
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FT	Region	43..197
FT		/note="light chain"
FT	Region	198..199
FT		200..211
FT		/note="activation peptide"
FT	Region	212..461
FT		/note="activated heavy chain"
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FN	EP319312-A.	
XX		
PD	07-JUN-1989.	
XX		
PF	02-DEC-1988;	88EP-00311421.
XX		
PR	04-DEC-1987;	87US-00129027.
XX		
PA	(ELIL ) ILILY & CO ELI.	

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QY      1 ANSLTEIHSLSRECEIEICDPEAEKEIFQVNDITLAFMSKIVDQCVLPLEHPCA 60
Db      43 ANSFLEIEHSSLECEIEICDPEAEKEIFQVNDITLAFMSKIVDQCVLPLEHPCA 102
QY      61 SLCCGHTCIDISGFSFCDGRSGWGRFCQREYFPLNCSLNDGGCTHYCLEBVGRRSC 120
Db      103 SLCCGHTCIDISGFSFCDGRSGWGRFCQREYFPLNCSLNDGGCTHYCLEBVGRRSC 162
QY      121 AGRYLGDDLLCQHPAYKPCQGRPWKREKKRSHLRDTEQOEQVDPRLIDGKTRGD 180
Db      163 AGRYLGDDLLCQHPAYKPCQGRPWKREKKRSHLRDTEQOEQVDPRLIDGKTRGD 222
QY      181 SPWQVVLNLSKKKLLCGAVLIHPSWVLFAHQMDSKKLVLGLQEYDLRRMKWELDLDI 240
Db      223 SPWQVVLNLSKKKLLCGAVLIHPSWVLFAHQMDSKKLVLGLQEYDLRRMKWELDLDI 282
QY      241 KEVEVHNYSKSTTNDIALIHLQAPLISQTVIPLDPSGLARELNOAGQELVTYGM 300
Db      283 KEVFNHNYSKSTTNDIALIHLQAPLISQTVIPLDPSGLARELNOAGQELVTYGM 342
QY      301 GHSSREKEKRRKRFVYNFIKTPVYHNHESSEYMSNMSENNLCAGILDRDQACEGS 360
Db      343 GHSSREKEKRRKRFVYNFIKTPVYHNHESSEYMSNMSENNLCAGILDRDQACEGS 402
QY      361 GGPWVASPHATWPLVLGVSMGEGCGLLHNGYATKYSRYLWLIHGHLRDXEAPQKSMAP 419
Db      403 GGPWVASPHATWPLVLGVSMGEGCGLLHNGYATKYSRYLWLIHGHLRDXEAPQKSMAP 461

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XX Human; Protein C, N-glycosylation; APC, activated protein C; zymogen; KM serum half-life; chromosome q21-q24; stroke; myocardial infarction; KM after venous thrombosis; disseminated intravascular coagulation; DIC; KM sepsis; septic shock; embolism; pulmonary embolism; burns; pregnancy; KM bone marrow transplantation; major surgery; trauma; AIDS; coagulant; KM adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutant

XX Homo sapiens.  
OS Synthetic.  
XX  
FH Key Location/Qualifiers  
FT Protein 1..155  
FT Peptide /label=light\_chain  
FT Peptide 156..157  
FT Protein /label=Lys\_Arg\_dipeptide  
FT Protein 158..419  
FT Peptide /label=Heavy\_chain  
FT Peptide 158..169  
FT Misc-difference /label=Activation\_peptide  
FT 339 /note="Wild-type Val substituted by Thr"  
XX  
XX WO200232461-A2.  
XX  
XX 25-APR-2002.  
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XX 15-OCT-2001; 2001MO-DK00679.  
XX  
XX 18-OCT-2000; 2000DK-00001560.  
XX 18-OCT-2000; 2000US-0242268P.  
XX 21-JUN-2001; 2001DK-00000970.  
XX 21-JUN-2001; 2001US-0300154P.  
XX  
XX (MAXY-) MAXYGEN APS.  
XX (MAXY-) MAXYGEN HOLDINGS LTD.  
XX  
XX Andersen KV, Pedersen AH, Friesgaard PO;  
XX WPI; 2002-489875/52.  
XX  
XX Novel conjugate useful for treating or preventing septic shock, stroke  
XX and myocardial infarction, comprises non-polypeptide group covalently  
XX attached to protein C polypeptide comprising an attachment group.  
XX  
XX  
XX Claim 9; Page: 92pp; English.

The invention relates to a conjugate (I) comprising at least one non-polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to a protein C polypeptide comprising an amino acid sequence which differs from that of a parent protein C polypeptide (III) in at least one introduced and/or at least one removed amino acid residue comprising an attachment group for the non-polypeptide group (e.g. an N-glycosylation site). Also included are (1) a variant (IV) of (III) comprising at least 25% of its side group exposed to the surface, with the proviso that the substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln, Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln, His/Lys/Arg/Asn/Asp/Glu/Gly/Gln, (2) a nucleotide sequence (V) encoding (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII) comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-life or the serum half-life of a parent protein C polypeptide. The conjugates, variants and protein C proteins are useful as medicaments, and in the manufacture of medicaments for the treatment (and diagnosis/prevention) of stroke, myocardial infarction, after venous thrombosis, disseminated intravascular coagulation (DIC), septic shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow transplantation, burns, pregnancy, major surgery/trauma or adult respiratory distress syndrome (ARDS). The variant protein C has an increased resistance to activation by e.g. human plasma and alpha-1 antitrypsin. The conjugates have an increased in vivo half-life, increased serum half-life, increased resistance to inhibitors, reduced renal clearance, reduced immunogenicity and/or increased bioavailability. The conjugate offers a number of advantages over the currently available APC products, including longer duration between injections. Moreover, a administration of less protein, and fewer side effects. Moreover, a reduced anticoagulant activity is beneficial to reduce the risk of bleeding while maintaining the antiinflammatory activity of APC (activated protein C) conjugates. This must be especially important when the conjugate has an extended plasma life. The gene for protein C is

CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
CC protein C variant of the invention. Note: The present sequence is not  
CC shown in the specification but was created by the indexer using the  
CC protein C sequence appearing as AAU99002 and the information in claim 9  
XX  
XX Sequence 419 AA;  
SQ  
Query Match 99.8%; Score 2320; DB 5; Length 419;  
Best Local Similarity 99.8%; Pred. No. 5.5e-143;  
Matches 419; Conservative 0; Mismatches 1; Indels 0; Gaps 0;  
QY 1 ANSFLELRHSLRECEIEICDFEBAKIFQNVDDTLAFWSKHYDQCIVPLERPCA 60  
Db 1 ANSFLELRHSLRECEIEICDFEBAKIFQNVDDTLAFWSKHYDQCIVPLERPCA 60  
QY 61 SLCCGHCITIDIGSFQDCRSQWEGRFQREVSFLNCSLDNCGCTHCLBEVGRRCSC 120  
Db 61 SLCCGHCITIDIGSFQDCRSQWEGRFQREVSFLNCSLDNCGCTHCLBEVGRRCSC 120  
QY 121 APGYKGDLLQCHPAVFPQGRPMRMEKRRSHLKEDTEDQEDQYDPRLLDGKMTREGD 180  
Db 121 APGYKGDLLQCHPAVFPQGRPMRMEKRRSHLKEDTEDQEDQYDPRLLDGKMTREGD 180  
QY 181 SPWQVVLDSKKKACGAVLIHPSWVLTAAHOMDESKKLLVRLGETDARRMEKELDLDI 240  
Db 181 SPWQVVLDSKKKACGAVLIHPSWVLTAAHOMDESKKLLVRLGETDARRMEKELDLDI 240  
QY 241 KEVFVHNYSKSTTNDIALHLAOPATLSQITVPCIPDSGLAEELNOAGETLVATGW 300  
Db 241 KEVFVHNYSKSTTNDIALHLAOPATLSQITVPCIPDSGLAEELNOAGETLVATGW 300  
QY 301 GYHSSREKAKRRKTFVNFIKIPVPHNEGSEVSNVSENNLCAGILIGRQACGDS 360  
Db 301 GYHSSREKAKRRKTFVNFIKIPVPHNEGSEVSNVSENNLCAGILIGRQACGDS 360  
QY 361 GGPWVASFHQWFLVGLVSWEGGGLHNYGYTVTSRYLDMTHGIRPKAPQSNAP 419  
Db 361 GGPWVASFHQWFLVGLVSWEGGGLHNYGYTVTSRYLDMTHGIRPKAPQSNAP 419

RESUT 26  
AAU99033 standard; protein, 419 AA.  
ID AAU99033  
AC AAU99033;  
XX  
XX 23-AUG-2002 (first entry)  
DT  
XX  
XX Human Protein C zymogen protein mutant K251N.  
DE  
XX  
XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
XX  
XX  
OS Homo sapiens.  
OS Synthetic.  
XX  
FH Key Location/Qualifiers  
FT Protein 1..155  
FT Peptide /label=light\_chain  
FT Peptide 156..157  
FT Protein /label=Lys\_Arg\_dipeptide  
FT Protein 158..419  
FT Peptide /label=Heavy\_chain  
FT Peptide 158..169  
FT Misc-difference /label=Activation\_peptide  
FT 251 /note="Wild-type Lys substituted by Asn"  
XX  
XX WO200232461-A2.

XX 25-APR-2002.  
 XX 15-OCT-2001; 2001WO-DK000679.  
 XX 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX (MAXY-) MAXYGEN ABS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 FI Andersen KV, Pedersen AH, Friesgaard PO;  
 DR WPI; 2002-489875/52.  
 XX Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 PS Claim 9; Page; 92pp; English.

XX The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr215Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln/  
 CC Tyr320Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX

SO Sequence 419 AA;  
 Query Match 99.8%; Score 2319; DB 5; Length 419;  
 Best Local Similarity 99.8%; Pred. No. 6.4e-143;  
 Matches 418; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSFLEELRHSSLEKCEIEICDPEEAKETQWVDDTLAFMSKHYDQGLVPLTHPCA 60  
 DB 1 ANSFLEELRHSSLEKCEIEICDPEEAKETQWVDDTLAFMSKHYDQGLVPLTHPCA 60  
 QY 61 SLCCGHGTCTDGTGSGFCDCRSQWGRFQGRVSVFLNCSLDNGGCTHYCLAEVGRRCSC 120

DB 61 SLCCGHGTCTDGTGSGFCDCRSQWGRFQGRVSVFLNCSLDNGGCTHYCLAEVGRRCSC 120  
 QY 121 AFGYKLGDDLLQCHPAVAFPCGRPMKMEKRSKSHLKRTPEDQDQVDPRLIDGKNTRRGD 180  
 DB 121 AFGYKLGDDLLQCHPAVAFPCGRPMKMEKRSKSHLKRTPEDQDQVDPRLIDGKNTRRGD 180  
 QY 181 SPMQVVLIDSKKKLACGAVLIHPGWLTAHOMDESKKLIVRGEYDLRMRKWEFLDLDI 240  
 DB 181 SPMQVVLIDSKKKLACGAVLIHPGWLTAHOMDESKKLIVRGEYDLRMRKWEFLDLDI 240  
 QY 241 KEVFPVHPNYSKSTTNDIALHLAQPRTLSQTTVPICLPDSGLAEELNQAQGETLVYGM 300  
 DB 241 KEVFPVHPNYSKSTTNDIALHLAQPRTLSQTTVPICLPDSGLAEELNQAQGETLVYGM 300  
 QY 301 GYHSSREKEAKRRRTVNFILKIPVPEHCESEVMSNMVSENMLCAGILGRQDACEGDS 360  
 DB 301 GYHSSREKEAKRRRTVNFILKIPVPEHCESEVMSNMVSENMLCAGILGRQDACEGDS 360  
 QY 361 GSPVVASFHGTWFLVGLVSMGEGGLLHNYGYTVKVSRYLDMYHGIHRLDKEAPQKSNAP 419  
 DB 361 GSPVVASFHGTWFLVGLVSMGEGGLLHNYGYTVKVSRYLDMYHGIHRLDKEAPQKSNAP 419

RESULT 27  
 AAU99015  
 ID AAU99015 standard; protein; 419 AA.  
 XX  
 AC AAU99015;  
 XX  
 DT 23-AUG-2002 (first entry)  
 XX  
 XX Human Protein C zymogen protein mutant D214N.  
 XX  
 KW Human: Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis, disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX

Key Location/qualifiers  
 FT Protein 1..155  
 FT Peptide /label=light\_chain  
 FT Peptide /label=157  
 FT Protein /label=lys\_Arg\_dipeptide  
 FT Peptide /label=158..419  
 FT Peptide /label=Heavy\_chain  
 FT Peptide /label=158..169  
 FT Peptide /label=Activation\_peptide  
 FT Peptide /label=214  
 FT Misc-difference 214  
 FT /note="Wild-type Asp substituted by Asn"

XX WO20022461-A2.  
 XX 25-APR-2002.  
 XX 15-OCT-2001; 2001WO-DK000679.  
 XX 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX (MAXY-) MAXYGEN ABS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 FI Andersen KV, Pedersen AH, Friesgaard PO;  
 DR WPI; 2002-489875/52.

PT Novel conjugate useful for treating or preventing septic shock, stroke  
PT and myocardial infarction, comprises non-polypeptide group covalently  
PT attached to protein C polypeptide comprising an attachment group.

XX  
PS Claim 9: Page: 92pp; English.

XX The invention relates to a conjugate (I) comprising at least one non-  
CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
CC a protein C polypeptide comprising an amino acid sequence which differs  
CC from that of a parent protein C polypeptide (III) in at least one  
CC introduced and/or at least one removed amino acid residue comprising an  
CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
CC site). Also included are (1) a variant (IV) of (III) comprising a  
CC substitution in a position (P) where (P) is an amino acid with at least  
CC 25% of its side group exposed to the surface, with the proviso that the  
CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
CC Tyr303Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
CC life or the serum half-life of a parent protein C polypeptide. The  
CC conjugates, variants and protein C proteins are useful as medicaments,  
CC and in the manufacture of medicaments for the treatment (and  
CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
CC shock, emboli e.g. pulmonary emboli, transplant rejection such as bone marrow  
CC transplantation, burns, pregnancy, major surgery/trauma or adult  
CC respiratory distress syndrome (ARDS). The variant protein C has an  
CC increased resistance to activation by e.g. human plasma and alpha-1  
CC antitrypsin. The conjugates have an increased in vivo half-life,  
CC increased serum half-life, increased resistance to inhibitors, reduced  
CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
CC The conjugate offers a number of advantages over the currently available  
CC APC products, including longer duration between injections,  
CC administration of less protein, and fewer side effects. Moreover, a  
CC reduced anticoagulant activity is beneficial to reduce the risk of  
CC bleeding while maintaining the anti-inflammatory activity of APC  
CC (activated protein C) conjugates. This must be especially important when  
CC the conjugate has an extended plasma life. The gene for protein C is  
CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
CC protein C variant of the invention. Note: The present sequence is not  
CC shown in the specification but was created by the indexer using the  
CC protein C sequence appearing as AAU99002 and the information in claim 9

XX Sequence 419 AA;

XX Query Match 99.8%; Score 2319; DB 5; Length 419;  
XX Best Local Similarity 99.8%; Pred. No. 6.4e-143;  
XX Matches 418; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLEIRHSSLEFECIEICDFEAKETIFQVNDTLAFMSKAVDGDQCLVPLEHPCA 60  
DB 1 ANSFLEIRHSSLEFECIEICDFEAKETIFQVNDTLAFMSKAVDGDQCLVPLEHPCA 60  
QY 61 SLCCGAGTCIDIGSFCDCRSQMGEGRCOREVSVFLNCSLNDGCTHYCLEEYGMRCSC 120  
DB 61 SLCCGAGTCIDIGSFCDCRSQMGEGRCOREVSVFLNCSLNDGCTHYCLEEYGMRCSC 120  
QY 121 APGYKLGDLLQCHPAVAFPCGRPMKMEKRSKILKQDTEQDQVDPRLIDGQMTFRGD 180  
DB 121 APGYKLGDLLQCHPAVAFPCGRPMKMEKRSKILKQDTEQDQVDPRLIDGQMTFRGD 180  
QY 181 SPQGVVLLDSKKKLAGAVLHPSWVLTAAHGMDSKKLVLRAGEVDLRRMEKELDLDI 240  
DB 181 SPQGVVLLDSKKKLAGAVLHPSWVLTAAHGMDSKKLVLRAGEVDLRRMEKELDLDI 240  
QY 241 KEVAVHNVSKSTTNDIALHLAQPATISQITVVICLPDSGLAEELNQAQOETLVYGM 300  
DB 241 KEVAVHNVSKSTTNDIALHLAQPATISQITVVICLPDSGLAEELNQAQOETLVYGM 300  
QY 301 GHSSREKAKRRFTVNFIKITVPVPHNECEGNNMNVSNMMLCGILIGRQDACCSDS 360  
DB 301 GHSSREKAKRRFTVNFIKITVPVPHNECEGNNMNVSNMMLCGILIGRQDACCSDS 360

QY 361 GSPWVASFHGTWFLVGLVSMGCGGLANVGYTVKSVYLDLWIGHIRKAPQKSNAP 419  
DB 361 GSPWVASFHGTWFLVGLVSMGCGGLANVGYTVKSVYLDLWIGHIRKAPQKSNAP 419

RESULT 28

AA13539  
ID AA13539 standard; protein; 461 AA.

AA13539;

25-MAR-2003 (revised)

09-JAN-2003 (revised)

31-OCT-1991 (first entry)

Human Protein C zymogen LIN.

HPC mutant; pro drug; intravascular coagulation; zymogen.

Homo sapiens.

Key Location/Qualifiers

Region 198..199

label= Lys-Arg dipeptide

EP443875-A.

28-AUG-1991.

22-FEB-1991; 91BP-00301450.

23-FEB-1990; 90US-00484133.

(BL1L) LILLY & CO ELL.

Gerlitz BE, Grinnell BW;

WPI; 1991-254444/35.

Recombinant mutants of human protein C - having amino acid changes for

increased sensitivity to activation by thrombin and thrombin-

thrombomodulin complex.

Claim 27: Page 37-38; 67pp; English.

Protein C Zymogen LIN comprises a signal peptide and propeptide of a

gamma-carboxylated secreted protein, the light chain of HPC, a basic

dipeptide (i.e. Lys-Arg, but can also be Arg-Lys, Lys-Lys or Arg-Arg) and

amino acid residues 200-461 of HPC but with Asp(214) replaced by Asn. The

zymogen can be activated in vivo by thrombin alone (even in the presence

of calcium) and is more susceptible to activation by

thrombin/thrombomodulin than native HPC zymogen. Zymogen LIN can be

administered as a pro drug useful in prevention and treatment of diseases

involving intravascular coagulation. It can also be given to

thrombocytopenic patients with invasive cancers with effective and

intensive chemotherapy. See AA13537-40 and AA133623. (Updated on 09-JAN-

2003 to add missing OS field.) (Updated on 25-MAR-2003 to correct PA

field.)

Sequence 461 AA;

Query Match 99.8%; Score 2319; DB 2; Length 461;

Best Local Similarity 99.8%; Pred. No. 7.1e-143;

Matches 418; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLEIRHSSLEFECIEICDFEAKETIFQVNDTLAFMSKAVDGDQCLVPLEHPCA 60  
DB 1 ANSFLEIRHSSLEFECIEICDFEAKETIFQVNDTLAFMSKAVDGDQCLVPLEHPCA 102  
QY 43 ANSFLEIRHSSLEFECIEICDFEAKETIFQVNDTLAFMSKAVDGDQCLVPLEHPCA 102  
DB 43 ANSFLEIRHSSLEFECIEICDFEAKETIFQVNDTLAFMSKAVDGDQCLVPLEHPCA 102  
QY 61 SLCCGAGTCIDIGSFCDCRSQMGEGRCOREVSVFLNCSLNDGCTHYCLEEYGMRCSC 120  
DB 61 SLCCGAGTCIDIGSFCDCRSQMGEGRCOREVSVFLNCSLNDGCTHYCLEEYGMRCSC 162

QY 121 APGYKLGDDLLQCHPAVPCGPRPKMEKRSKSHKRTDEQEDQVDPRLIDGKMTTRGD 180  
 DB 163 APGYKLGDDLLQCHPAVPCGPRPKMEKRSKSHKRTDEQEDQVDPRLIDGKMTTRGD 222  
 QY 181 SPMQVLLDSKKKLACGAVLIHPSWVLTAAHQMDSKKLVRLGEYDLRRMEKELDLDI 240  
 DB 223 SPMQVLLDSKKKLACGAVLIHPSWVLTAAHQMDSKKLVRLGEYDLRRMEKELDLDI 282  
 QY 241 KEVFPVHPNYSKSTTNDIALHLAQPATLSQTVIPICLPDSGLAEELNQAQGETLVYGM 300  
 DB 283 KEVFPVHPNYSKSTTNDIALHLAQPATLSQTVIPICLPDSGLAEELNQAQGETLVYGM 342  
 QY 301 GYHSSREKAKRNRTFVLANFIKIPVPHNECEVSNMVSNNMLCAGILGDRDACEGDS 360  
 DB 343 GYHSSREKAKRNRTFVLANFIKIPVPHNECEVSNMVSNNMLCAGILGDRDACEGDS 402  
 QY 361 GGPWVASFHGTWFLVGLVSWGEGGGLHANYGYTVKRSYLDWIHGHIRDKAPQKSNAP 419  
 DB 403 GGPWVASFHGTWFLVGLVSWGEGGGLHANYGYTVKRSYLDWIHGHIRDKAPQKSNAP 461

## RESULT 29

AAB36896  
 ID AAB36896 standard; protein; 419 AA.

AC AAB36896;

DT 26-FEB-2001 (first entry)

DE Human protein C derivative 3.

KX Protein C; human; vascular occlusive; burn; transplantation;

KW deep vein thrombosis; sickle cell; thalassemia; thrombotic disorders;

KM myocardial infarction; angina; stroke.

XX Homo sapiens.

XX WO200066754-A1.

XX 09-NOV-2000.

XX 13-APR-2000; 2000MO-US008722.

XX 30-APR-1999; 99US-0131801P.

XX (ELIL ) LILLY & CO ELI.

XX Gerlitz BE, Jones BE;

XX WPI, 2001-007227/01.

XX N-PSDB; AAC8313.

XX Protein C derivatives, useful for treating vascular occlusive disorder,

XX hypercoagulable state, thrombotic disorder and disease states

XX predisposing thrombosis, comprises specific amino acid substitutions.

XX Claim 4; Page 46-47; 57pp; English.

XX The present invention relates to a human protein C derivative. The  
 CC protein is useful for treating vascular occlusive disorders,  
 CC hypercoagulable states such as sepsis, disseminated intravascular  
 CC coagulation, purpura fulminans, major trauma, major surgery, burns, adult  
 CC respiratory distress syndrome, transplantation, deep vein thrombosis,  
 CC heparin-induced thrombocytopenia, sickle cell disease, thalassemia, viral  
 CC hemorrhagic fever, thrombotic thrombocytopenic purpura, and hemolytic  
 CC urmic syndrome, and also useful for treating thrombotic disorders and  
 CC acute coronary syndromes such as myocardial infarction, unstable angina,  
 CC and stroke. Protein C derivatives with amino acid substitutions result in  
 CC increased resistance to inactivation by serpins when compared to wild-  
 CC type activated human protein C. They also have longer half-lives in human  
 CC blood and hence require fewer less frequent administration and/or  
 CC smaller dosage than wild type human protein C for treating disorders

XX SQ Sequence 419 AA;

Query Match 99.7%; Score 2318; DB 4; Length 419;

Best Local Similarity 99.8%; Pred. No. 7.5e-143; Matches 418; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSTFELRHSSLEKECEIECFEERAKETIFQVNDTLAFWSKVYDQCVLPLRHPCA 60  
 DB 1 ANSTFELRHSSLEKECEIECFEERAKETIFQVNDTLAFWSKVYDQCVLPLRHPCA 60  
 QY 61 SLCCGHTCIDIGSFSDCRSQMEGRFCQREVSLNCSLDNGGCTHYCLBEVGMRCSC 120  
 DB 61 SLCCGHTCIDIGSFSDCRSQMEGRFCQREVSLNCSLDNGGCTHYCLBEVGMRCSC 120  
 QY 121 APGYKLGDDLLQCHPAVPCGPRPKMEKRSKSHKRTDEQEDQVDPRLIDGKMTTRGD 180  
 DB 121 APGYKLGDDLLQCHPAVPCGPRPKMEKRSKSHKRTDEQEDQVDPRLIDGKMTTRGD 180  
 QY 181 SPMQVLLDSKKKLACGAVLIHPSWVLTAAHQMDSKKLVRLGEYDLRRMEKELDLDI 240  
 DB 181 SPMQVLLDSKKKLACGAVLIHPSWVLTAAHQMDSKKLVRLGEYDLRRMEKELDLDI 240  
 QY 241 KEVFPVHPNYSKSTTNDIALHLAQPATLSQTVIPICLPDSGLAEELNQAQGETLVYGM 300  
 DB 241 KEVFPVHPNYSKSTTNDIALHLAQPATLSQTVIPICLPDSGLAEELNQAQGETLVYGM 300  
 QY 301 GYHSSREKAKRNRTFVLANFIKIPVPHNECEVSNMVSNNMLCAGILGDRDACEGDS 360  
 DB 301 GYHSSREKAKRNRTFVLANFIKIPVPHNECEVSNMVSNNMLCAGILGDRDACEGDS 360  
 QY 361 GGPWVASFHGTWFLVGLVSWGEGGGLHANYGYTVKRSYLDWIHGHIRDKAPQKSNAP 419  
 DB 361 GGPWVASFHGTWFLVGLVSWGEGGGLHANYGYTVKRSYLDWIHGHIRDKAPQKSNAP 419

## RESULT 30

AAU99073  
 ID AAU99073 standard; protein; 419 AA.

AC AAU99073;

DT 23-AUG-2002 (first entry)

DE Human Protein C zymogen protein mutant V339S.

KX Human, Protein C; N-glycosylation; APC; activated protein C; zymogen;

KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;

KM after venous thrombosis; disseminated intravascular coagulation; DIC;

KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;

KM bone marrow transplantation; major surgery; trauma; ARDS; coagulant;

XX adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.

XX Homo sapiens.

XX Synthetic.

XX Key

FT Protein

FT Peptide

FT Peptide

FT Peptide

FT Misc-difference 339

Location/Qualifiers  
 1..155  
 /label=light\_chain  
 156..157  
 /label=light\_chain  
 158..419  
 /label=Heavy\_chain  
 158..169  
 /label=Activation\_peptide  
 339  
 /note="Wild-type Val substituted by Ser"

XX WO200232461-A2.  
 XX 25-APR-2002.  
 XX 15-OCT-2001; 2001MO-DK006679.



XX 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 PI Andersen KV, Pedersen AH, Freskgaard PO;  
 DR WPI; 2002-489875/52.  
 XX  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 PS Claim 9; Page; 92pp; English.  
 XX  
 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (I) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections. Moreover, a  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AU099002 and the information in claim 9  
 XX  
 SQ Sequence 419 AA.  
 Query Match 99.7%; Score 2318; DB 5; Length 419;  
 Best Local Similarity 99.8%; Pred. No. 7,5e-143;  
 Matches 418; Conservative 0; Mismatches 1; Indels 0; Gaps 0;  
 QY 1 ANSLFELRLRSSIEECLEETCDPEEAKELPONDVDTLAHNSGVGGQCVLPLEPCCA 60  
 DB 1 ANSLFELRLRSSIEECLEETCDPEEAKELPONDVDTLAHNSGVGGQCVLPLEPCCA 60  
 QY 61 SLCCGHTCTIDIGISPSDCRSQWEGFRCQREVSFLNCSLDNGGCTHYCLIEVGMRCSC 120  
 DB 61 SLCCGHTCTIDIGISPSDCRSQWEGFRCQREVSFLNCSLDNGGCTHYCLIEVGMRCSC 120  
 QY 121 APGYLGGDILLQCHPAVPCGGRPWKMEKRSKHLKRTDEQDEQVDPRLIDGKMTRRGD 180

DB 121 APGYLGGDILLQCHPAVPCGGRPWKMEKRSKHLKRTDEQDEQVDPRLIDGKMTRRGD 180  
 QY 181 SEMQVVLIDSKKTLACGAVLTJHPSMVLTAHNCWDSKKLVRLGELYDLRMKEWELDDI 240  
 DB 181 SEMQVVLIDSKKTLACGAVLTJHPSMVLTAHNCWDSKKLVRLGELYDLRMKEWELDDI 240  
 QY 241 KEVFPHPVSKSTTDNDIALHLAQPATLSQITVPCIPDSGLAERLNOAGETLVTVGW 300  
 DB 241 KEVFPHPVSKSTTDNDIALHLAQPATLSQITVPCIPDSGLAERLNOAGETLVTVGW 300  
 QY 301 GHSSREKEARNRFTPLNFIKIPVPHNCSSEWMSNMVSEMTCAGITLGRDQACEGDS 360  
 DB 301 GHSSREKEARNRFTPLNFIKIPVPHNCSSEWMSNMVSEMTCAGITLGRDQACEGDS 360  
 QY 361 GGPVNASFHGTWFLVGLVSGEGCLHNYGYTTKSYRLDWIGHIRDEAPQKSMAP 419  
 DB 361 GGPVNASFHGTWFLVGLVSGEGCLHNYGYTTKSYRLDWIGHIRDEAPQKSMAP 419

RESULT 31  
 AAU99096  
 ID AAU99096 standard; protein; 419 AA.  
 AC  
 XX AAU99096;  
 AC  
 DT 23-AUG-2002 (first entry)  
 XX  
 DE Human Protein C zymogen protein mutant M38A.  
 XX  
 XX Human, Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 XX serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 XX after venous thrombosis; disseminated intravascular coagulation; DIC;  
 XX sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 XX bone marrow transplantation; major surgery; trauma; coagulant;  
 XX adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 FH Key Location/Qualifiers  
 FT 1..155 /label= light\_chain  
 FT 156..157 /label= light\_chain  
 FT 158..419 /label= Lys\_Arg\_dipeptide  
 FT 158..419 /label= Heavy\_chain  
 FT 158..169 /label= Heavy\_chain  
 FT Peptide /label= Activation\_peptide  
 FT Misc-difference 338 /note= "Wild-type Met substituted by Ala"  
 FT  
 PD WO200232461-A2.  
 PD 25-APR-2002.  
 PF 15-OCT-2001; 2001MO-DK000679.  
 XX  
 PR 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 PI Andersen KV, Pedersen AH, Freskgaard PO;  
 DR WPI; 2002-489875/52.  
 XX  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX

PS Example 5; Page; 92pp; English.

The invention relates to a conjugate (I) comprising at least one non-  
 polypeptide moiety (II) (e.g., an N-glycosyl group) covalently attached to  
 a protein C polypeptide comprising an amino acid sequence which differs  
 from that of a parent protein C polypeptide (III) in at least one  
 introduced and/or at least one removed amino acid residue comprising an  
 attachment group for the non-polypeptide group (e.g., an N-glycosylation  
 site). Also included are (1) a variant (IV) of (III) comprising a  
 substitution in a position (P) where (P) is an amino acid with at least  
 25% of its side group exposed to the surface, with the proviso that the  
 substitution is not Thr245Ser/Ala/His/Val/Arg/Asn/Asp/Glu/Gly/Gln,  
 Tyr320Ser/Ala/Thr/His/Val/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
 His/Val/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 life or the serum half-life of a parent protein C polypeptide. The  
 conjugates, variants and protein C proteins are useful as medicaments,  
 and in the manufacture of medicaments for the treatment (and  
 diagnosis/prevention) of stroke, myocardial infarction, after venous  
 thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 transplantation, burns, pregnancy, major surgery/trauma or adult  
 respiratory distress syndrome (ARDS). The variant protein C has an  
 increased resistance to activation by e.g. human plasma and alpha-1  
 antitrypsin. The conjugates have an increased in vivo half-life,  
 increased serum half-life, increased resistance to inhibitors, reduced  
 renal clearance, reduced immunogenicity and/or increased bioavailability.  
 The conjugate offers a number of advantages over the currently available  
 APC products, including longer duration between infections,  
 administration of less protein, and fewer side effects. Moreover, a  
 reduced anticoagulant activity is beneficial to reduce the risk of  
 bleeding while maintaining the antiinflammatory activity of APC  
 (activated protein C) conjugates. This must be especially important when  
 the conjugate has an extended plasma life. The gene for protein C is  
 located on chromosome 2q13-q14. The present sequence represents a zymogen  
 protein C variant of the invention. Note: The present sequence is not  
 shown in the specification but was created by the indexer using the  
 protein C sequence appearing as AAU95002 and the information in claim 9

Query Match	99.7%	Score 2318;	DB 5;	Length 419;
Best Local Similarity	99.8%	Pred. No. 7.5e-143;		
Matches 418; Conservative	0;	Mismatches 1;	Indels 0;	Gaps 0;

Qy	1	ANSFEEERSSISEECIEELCOFEAEKEIQONUDTLAFMSKVIDDQCVLPHEHCA	60
Dd	1	ANSFEEERSSISEECIEELCOFEAEKEIQONUDTLAFMSKVIDDQCVLPHEHCA	60
Qy	61	SUCCGHGTCIDIGISGSCDCRSGMEGRFCQEBVSFLNCSLDNGCTHYCLEBYGRRSC	120
Dd	61	SUCCGHGTCIDIGISGSCDCRSGMEGRFCQEBVSFLNCSLDNGCTHYCLEBYGRRSC	120
Qy	121	ABGYKLDGDLLOCHPAVYFPCGRPMXGMRKSHLRKDPEDQOQDUPRLDGNKTRRGD	180
Dd	121	ABGYKLDGDLLOCHPAVYFPCGRPMXGMRKSHLRKDPEDQOQDUPRLDGNKTRRGD	180
Qy	181	SPMOVVLDSKKKTLACGVALHPSWVLTAHOMDSKKLYBLGEYDLREWEKEJLDJI	240
Dd	181	SPMOVVLDSKKKTLACGVALHPSWVLTAHOMDSKKLYBLGEYDLREWEKEJLDJI	240
Qy	241	KFWFHPVYSKTTDNDLALHLAOPATLSQTVPICLPDSGIARELINAQGETLVYGM	3000
Dd	241	KFWFHPVYSKTTDNDLALHLAOPATLSQTVPICLPDSGIARELINAQGETLVYGM	3000
Qy	301	GYSHSREKEARNRTFVNLFIKIPVNEHCEVSMMNSNNMLCAGILGRDQACEDS	3600
Dd	301	GYSHSREKEARNRTFVNLFIKIPVNEHCEVSMMNSNNMLCAGILGRDQACEDS	3600
Qy	361	GGEMNDSHYGHWFLNGLNWSMGCGLLHNYGYTKYRYDTHHGHIDKAEQCSMAP	419
Dd	361	GGEMNDSHYGHWFLNGLNWSMGCGLLHNYGYTKYRYDTHHGHIDKAEQCSMAP	419

RESULT 32  
AAU99032  
ID AAU99032 standard; protein; 419 AA

DT 23-AUG-2002 (first entry)

DE Human Protein C zymogen protein mutant S250N/S252T

KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen.

KW after venous thrombosis; disseminated intravascular coagulation; DIC.

KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;

XX

OS Synthetic.

FH	Key	Location/Qualifiers

```

FT      /label= Light_chain
      156 157

```

FT	Residue	Label
159	419	Lys_Arg_dipeptide

FT	/label= Heavy_chain
158	158

FT	Wavenumber	Label
2950	2950	Activation peptide

FT	/note= "Wild-type ser subs
WT	353

/note= "Wild-type set substituted by m

PN W0200232461-A2  
yy

PD 25-APR-2002  
yy

PF 15-OCT-2001; 2001MO-DK0006/9.  
VY

PR 18-OCT-2000; 2000DK-00001560;  
PR 18-OCT-2000; 2000TS-0242268P;  
PR

PR 21-JUN-2001; 2001DK-00000970  
PR 21-JUN-2001; 2001HS-0300154P

XX  
XX  
PA (MAYY-) MAXYGEN APS.

PA (MAXY-) MAXYGEN HOLDINGS LTD  
XY  
XY

PL Andersen KV, Feudtben AM,  
XY

DR MPT; 2002-489815/24.  
XX

PT and myocardial infarction, c

XX PI attached to protein c polypep

CLALM 3; Page: 24991

polypeptide moiety (II) (e.g.

from that of a parent protein

CC attachment group for the non

CC substitution in a position (

CC substitution is not Thr245Ser

CC His/Lys/Arg/Asn/Asp/Glu/Gly/

8  
1  
2  
3  
4

CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)

CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-life of the serum half-life of a parent protein C polypeptide. The CC conjugates, variants and protein C proteins are useful as medicaments, CC and in the manufacture of medicaments for the treatment (and CC diagnosis/prevention) of stroke, myocardial infarction, after venous CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow CC transplantation, burns, pregnancy, major surgery/trauma or adult CC respiratory distress syndrome (ARDS). The variant protein C has an CC increased resistance to activation by e.g. human plasma and alpha-1 CC antitrypsin. The conjugates have an increased in vivo half-life, CC increased serum half-life, increased resistance to inhibitors, reduced CC renal clearance, reduced immunogenicity and/or increased bioavailability. CC The conjugate offers a number of advantages over the currently available CC APC products, including longer duration between injections, CC administration of less protein, and fewer side effects. Moreover, a CC reduced anticoagulant activity is beneficial to reduce the risk of CC bleeding while maintaining the antiinflammatory activity of APC CC (activated protein C) conjugates. This must be especially important when CC the conjugate has an extended plasma life. The gene for protein C is CC located on chromosome 2q13-q14. The present sequence represents a zymogen CC protein C variant of the invention. Note: The present sequence is not CC shown in the specification but was created by the indexer using the CC protein C sequence appearing as A009002 and the information in claim 9

XX Sequence 419 AA:

Query Match 99.7%; Score 2318; DB 5; Length 419;  
Best Local Similarity 99.5%; Pred. No. 7,5e-143;  
Matches 417; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLELRHSLSRECEIEICDFEAKETIFQVDDTLAFWSKHYDGDQCLVPLEHPCA 60  
DB 1 ANSFLELRHSLSRECEIEICDFEAKETIFQVDDTLAFWSKHYDGDQCLVPLEHPCA 60  
QY 61 SLCCGHTCIDIGISFSCDCRSWGEGRFQREVSFLNCSLDNGCTHYCLEEVGMRRCSC 120  
DB 61 SLCCGHTCIDIGISFSCDCRSWGEGRFQREVSFLNCSLDNGCTHYCLEEVGMRRCSC 120  
QY 121 APGYKLDGDLIQCHPAVFPQGRPMKMKKRSKSHKRDTEDEQDVDFRLDGKMTRRGD 180  
DB 121 APGYKLDGDLIQCHPAVFPQGRPMKMKKRSKSHKRDTEDEQDVDFRLDGKMTRRGD 180  
QY 181 SPQVVLDSKKKLAGAVLIHPSWLTAAHCQDESKKLVRLGEYDLRWKMEKELDLDI 240  
DB 181 SPQVVLDSKKKLAGAVLIHPSWLTAAHCQDESKKLVRLGEYDLRWKMEKELDLDI 240  
QY 241 KEVFAHPYVNTTDDNDIALHLAQPATLSQITVPICLPDSGLARELNQAGQETLVYTW 300  
DB 241 KEVFAHPYVNTTDDNDIALHLAQPATLSQITVPICLPDSGLARELNQAGQETLVYTW 300  
QY 301 GHSSREKAKRRTFVLFNFKIPVPHNECEVMNWSNMLCAGITLDRQDCEGDS 360  
DB 301 GHSSREKAKRRTFVLFNFKIPVPHNECEVMNWSNMLCAGITLDRQDCEGDS 360  
QY 361 GGPVYASPHGTWFLVGLVSWGEGCLLANYGVYTKSRYLDMIHGHTLRDEAKQSNAP 419  
DB 361 GGPVYASPHGTWFLVGLVSWGEGCLLANYGVYTKSRYLDMIHGHTLRDEAKQSNAP 419

RESULT 33  
AAR13997  
ID AAR13997 standard; protein; 461 AA.

XX AAR13997;  
XX 25-MAR-2003 (revised)  
DT 01-NOV-1991 (first entry)  
XX  
DE Human protein C zymogen Q329.  
XX HPC; thrombin; mutant.  
XX

OS Homo sapiens.  
XX Key Location/Qualifiers  
FH Peptide 1..42  
FT /label= pre-pro  
FT /note= "signal peptide and propeptide"  
FT 43..197  
FT /label= LC  
FT /note= "light chain"  
FT 198..199  
FT /note= "removed to form 2-chain protein C"  
FT Region  
FT 200..461  
FT /label= HC  
FT /note= "heavy chain"  
FT 200..211  
FT /label= AP  
FT /note= "activation peptide"  
FT 212..461  
FT /label= AHC  
FT /note= "activated heavy chain"

PN EP443874-A.  
PD 28-AUG-1991.  
PF 22-FEB-1991; 91EP-00301446.  
PR 23-FEB-1990; 90US-00484081.  
PR 21-DEC-1990; 90US-00628063.  
PA (EHL) LILLY & CO ELI.  
PI Gerlitz BE, Grinnell BW;  
PI WPI, 1991-25443/35.

PT Recombinant mutants of human protein C - with altered glycosylation for  
PT higher amidolytic and anticoagulant activity when activated.

PS Claim 9; Page 28; 47pp; English.

XX The zymogen forms of HPC represented in AAR13582, AAR13584, AAR13585 and  
XX AAR13997 have altered glycosylation patterns due to site-directed changes  
XX in the native HPC gene encoding the amino acid sequence. When activated,  
XX they have higher amidolytic and anticoagulant activity than the native  
XX form and opt. increased affinity for thrombin. E. coli K12 AG1/PLPC-Q329  
XX (NRRL B-18611) was obtained contg. the gene coding for the Asn-371-Gln  
XX mutation. PLPC-Q329 was recovered to transform 293 cells which were  
XX cultured to produce the zymogen mutant. The mutant had an amidolytic  
XX activity of 47 units/mg and anticoagulant activity of 516 units/mg  
XX compared to 35 units/mg and 325 units/mg respectively for wild-type  
XX activated HPC. (Updated on 25-MAR-2003 to correct PA field.)

XX Sequence 461 AA:

Query Match 99.7%; Score 2318; DB 2; Length 461;  
Best Local Similarity 99.8%; Pred. No. 8,2e-143;  
Matches 418; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSFLELRHSLSRECEIEICDFEAKETIFQVDDTLAFWSKHYDGDQCLVPLEHPCA 60  
DB 43 ANSFLELRHSLSRECEIEICDFEAKETIFQVDDTLAFWSKHYDGDQCLVPLEHPCA 102  
QY 61 SLCCGHTCIDIGISFSCDCRSWGEGRFQREVSFLNCSLDNGCTHYCLEEVGMRRCSC 120  
DB 103 SLCCGHTCIDIGISFSCDCRSWGEGRFQREVSFLNCSLDNGCTHYCLEEVGMRRCSC 162  
QY 121 APGYKLDGDLIQCHPAVFPQGRPMKMKKRSKSHKRDTEDEQDVDFRLDGKMTRRGD 180  
DB 163 APGYKLDGDLIQCHPAVFPQGRPMKMKKRSKSHKRDTEDEQDVDFRLDGKMTRRGD 222  
QY 181 SPQVVLDSKKKLAGAVLIHPSWLTAAHCQDESKKLVRLGEYDLRWKMEKELDLDI 240

Db 223 SPQVVLDSKKKLAAGVLIHPSWVLTAAHOMDESKLLVRLGEYDLRMEKWEILDLDI 282

QY 241 KEVFEHPNYSKSTTDNDIALHLAOPATLSQTIYPTCLPDSGLARELNQAGETLVYGM 300

Db 283 KEVFEHPNYSKSTTDNDIALHLAOPATLSQTIYPTCLPDSGLARELNQAGETLVYGM 342

QY 301 GYHSSREKAKRNRTFVNLFIKIPVPEHNECEVMSNMVSENNLCAGILGRDACEGDS 360

Db 343 GYHSSREKAKRNRTFVNLFIKIPVPEHNECEVMSNMVSENNLCAGILGRDACEGDS 402

QY 361 GGPVVASFHGTWFLVGLVSMGEGCGLLHNYGYTKVSRYLDWIHGHIRDEKAPQKSWAP 419

Db 403 GGPVVASFHGTWFLVGLVSMGEGCGLLHNYGYTKVSRYLDWIHGHIRDEKAPQKSWAP 461

RESULT 34

AA13582

AC AAR13582 standard; protein; 461 AA.

XX

AC AAR13582;

XX

DT 25-MAR-2003 (revised)

DT 01-NOV-1991 (first entry)

XX

DE Human protein C zymogen Q097.

XX

KM HPC; thrombin; mutant.

XX

OS Homo sapiens.

XX

XX Location/Qualifiers

FT 1..42

FT /label= pre-pro

FT /note= "signal peptide and propeptide"

FT 43..197

FT /label= LC

FT /note= "light chain"

FT 198..199

FT /note= "removed to form 2-chain protein C"

FT 200..461

FT /label= HC

FT /note= "heavy chain"

FT 200..211

FT /label= AP

FT /note= "activation peptide"

FT 212..461

FT /label= AHC

FT /note= "activated heavy chain"

FT

FT Region

EP443874-A.

XX

PN 28-AUG-1991.

XX

PD 22-FEB-1991; 91EP-00301446.

XX

PF 23-FEB-1990; 90US-00484081.

XX

PR 21-DEC-1990; 90US-00628063.

XX

XX (EHLI ) LILLY & CO ETL.

XX

XX Gerlitz BE, Grinnell BW;

PI WPI; 1991-254443/35.

DR

XX

PT Recombinant mutants of human protein C - with altered glycosylation for

PT higher amidolytic and anticoagulant activity when activated.

XX

XX Claim 3; Page 28; 47pp; English.

XX

CC The zymogen forms of HPC represented in AAR13582, AAR13584, AAR13585 and

CC AAR13597 have altered glycosylation patterns due to site-directed changes

CC in the native HPC gene encoding the amino acid sequence. When activated,

CC they have higher amidolytic and anticoagulant activity than the native

CC form and opt. increased affinity for thrombin. E. coli K12 Agt/pLPC-Q097

CC (NRRL B-18608) was obtained contg. the gene coding for the Asn-139-Gln

CC mutation. pLPC-Q097 was recovered to transform 293 cells which were

CC cultured to produce the zymogen mutant. The mutant had an amidolytic

CC activity of 32 units/mg and anticoagulant activity of 303 units/mg

CC compared to 35 units/mg and 325 units/mg respectively for wild-type

CC activated HPC. (Updated on 25-MAR-2003 to correct PA field.)

XX

XX Sequence 461 AA:

QY 1 ANSFLERLRSSLERECIEICDPEEAKETPQVNDTLAFWSKHVDGQCLVLPLEHPCA 60

Db 43 ANSFLERLRSSLERECIEICDPEEAKETPQVNDTLAFWSKHVDGQCLVLPLEHPCA 102

QY 61 SLCCGHGTCTDGTGSPDCRSWGEGFPCQREVSFLNCSLDNGCTHYCLEBYGMRRCSC 120

Db 103 SLCCGHGTCTDGTGSPDCRSWGEGFPCQREVSFLNCSLDNGCTHYCLEBYGMRRCSC 162

QY 121 ARGYLLGPDLLQCHPAVKPCGRPMKMEKRSKSHKRDTEQDQVDRLLDEKTRRGD 180

Db 163 ARGYLLGPDLLQCHPAVKPCGRPMKMEKRSKSHKRDTEQDQVDRLLDEKTRRGD 222

QY 181 SPQVVLDSKKKLAAGVLIHPSWVLTAAHOMDESKLLVRLGEYDLRMEKWEILDLDI 240

Db 223 SPQVVLDSKKKLAAGVLIHPSWVLTAAHOMDESKLLVRLGEYDLRMEKWEILDLDI 282

QY 241 KEVFEHPNYSKSTTDNDIALHLAOPATLSQTIYPTCLPDSGLARELNQAGETLVYGM 300

Db 283 KEVFEHPNYSKSTTDNDIALHLAOPATLSQTIYPTCLPDSGLARELNQAGETLVYGM 342

QY 301 GYHSSREKAKRNRTFVNLFIKIPVPEHNECEVMSNMVSENNLCAGILGRDACEGDS 360

Db 343 GYHSSREKAKRNRTFVNLFIKIPVPEHNECEVMSNMVSENNLCAGILGRDACEGDS 402

QY 361 GGPVVASFHGTWFLVGLVSMGEGCGLLHNYGYTKVSRYLDWIHGHIRDEKAPQKSWAP 419

Db 403 GGPVVASFHGTWFLVGLVSMGEGCGLLHNYGYTKVSRYLDWIHGHIRDEKAPQKSWAP 461

RESULT 35

AA13585

ID AAR13585 standard; protein; 461 AA.

XX

AC AAR13585;

XX

DT 25-MAR-2003 (revised)

DT 01-NOV-1991 (first entry)

XX

DE Human protein C zymogen Q013.

XX

KM HPC; thrombin; mutant.

XX

OS Homo sapiens.

XX

XX Location/Qualifiers

FT 1..42

FT /label= pre-pro

FT /note= "signal peptide and propeptide"

FT 43..197

FT /label= LC

FT /note= "light chain"

FT 198..199

FT /note= "removed to form 2-chain protein C"

FT 200..461

FT /label= HC

FT /note= "heavy chain"

FT 200..211

FT /label= AP

FT /note= "activation peptide"

FT

FT Region

```

FT Region 212. 461
FT /label= AHC
FT /note= "activated heavy chain"
XX
XX EP443874-A.
XX
XX 28-AUG-1991.
XX
XX 22-FEB-1991; 91EP-00301446.
XX
XX 23-FEB-1990; 90US-00484081.
XX 21-DEC-1990; 90US-00628063.
XX
XX (ELIL ) LILLY & CO ELI.
XX
XX Gerlitz BE, Grinnell BW;
XX
XX WPI; 1991-254443/35.
XX
XX Recombinant mutants of human protein C - with altered glycosylation for
XX higher amidolytic and anticoagulant activity when activated.
XX
XX Claim 7; Page 28; 47pp; English.
XX
XX The zymogen forms of HPC represented in AAR13582, AAR13584, AAR13585 and
XX AAR1397 have altered glycosylation patterns due to site-directed changes
XX in the native HPC gene encoding the amino acid sequence. When activated,
XX they have higher amidolytic and anticoagulant activity than the native
XX form and opt. increased affinity for thrombin. E. coli K12 AG1/pUPC-Q313
XX (NRRL B-18610) was obtained contg. the gene coding for the Asn-355-Gln
XX mutation. pUPC-Q313 was recovered to transform 293 cells which were
XX cultured to produce the zymogen mutant. The mutant had an amidolytic
XX activity of 52 units/mg and anticoagulant activity of 627 units/mg
XX compared to 35 units/mg and 325 units/mg respectively for wild-type
XX activated HPC. (Updated on 25-MAR-2003 to correct PA field.)
XX
XX SQ Sequence 461 AA:
XX
XX Query Match 99.7%; Score 2318; DB 2; Length 461;
XX Best Local Similarity 99.8%; Pred. No. 8.2e-143;
XX Matches 418; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
XX
XX 1 ANSFLELRHSLRECEIEICDFEAKKEIFQNVDDTLAFWSKRVDDQCLVPLPHEPCA 60
XX 43 ANSTLELRHSLRECEIEICDFEAKKEIFQNVDDTLAFWSKRVDDQCLVPLPHEPCA 102
XX
XX 61 SLCCGHTCICDGSFSCDCRSMEGRFCQREVSFLNCSLDNGCTHYCLBEVGRRCSC 120
XX 103 SLCCGHTCICDGSFSCDCRSMEGRFCQREVSFLNCSLDNGCTHYCLBEVGRRCSC 162
XX
XX 121 APGYKIGDULLCHNAVFPQGRPMKREKRSKLDKDDQDDVDRLIDGKMTRRGD 180
XX 163 APGYKIGDULLCHNAVFPQGRPMKREKRSKLDKDDQDDVDRLIDGKMTRRGD 222
XX
XX 181 SPMQVVLDSKKKLAGAVLIHPSVWLTAAHOMESKKLLVRLGEYDLRRMEKMLDLDI 240
XX 223 SPMQVVLDSKKKLAGAVLIHPSVWLTAAHOMESKKLLVRLGEYDLRRMEKMLDLDI 282
XX
XX 241 KEVFNHNSKSTNDIALIHLAOPATISQTTVPICLPDSGLAEELNKGQSTTLVTGW 300
XX 283 KEVFNHNSKSTNDIALIHLAOPATISQTTVPICLPDSGLAEELNKGQSTTLVTGW 342
XX
XX 301 GYHSRREKAKNRTFVNFKIPVPHNEGCEWNSNVSENNLCAGILGRDACEGDS 360
XX 343 GYHSRREKAKNRTFVNFKIPVPHNEGCEWNSNVSENNLCAGILGRDACEGDS 402
XX
XX 361 GGPVVASFHGTFLVGLVSMGCGLIHNVGYTVRSYIDMIGHIRDKKAPQKSNAP 419
XX 403 GGPVVASFHGTFLVGLVSMGCGLIHNVGYTVRSYIDMIGHIRDKKAPQKSNAP 461
XX
XX RESULT 36
XX AAR13584

```

```

ID AAR13584 standard; protein; 461 AA.
XX
XX AAR13584;
XX
XX 25-MAR-2003 (revised)
XX 01-NOV-1991 (first entry)
XX
XX Human protein C zymogen Q248.
XX
XX HPC; thrombin; mutant.
XX
XX Homo sapiens.
XX
XX Key
XX Peptide
XX Location/Qualifiers
XX 1..42
XX /label= pre-pro
XX /note= "signal peptide and propeptide"
XX 43..197
XX /label= LC
XX /note= "light chain"
XX 198..199
XX /note= "removed to form 2-chain protein C"
XX
XX Region
XX 200..461
XX /label= HC
XX /note= "heavy chain"
XX 200..211
XX /label= AP
XX /note= "activation peptide"
XX
XX Region
XX 212..461
XX /label= AHC
XX /note= "activated heavy chain"
XX
XX EP443874-A.
XX
XX 28-AUG-1991.
XX
XX 22-FEB-1991; 91EP-00301446.
XX
XX 23-FEB-1990; 90US-00484081.
XX 21-DEC-1990; 90US-00628063.
XX
XX (ELIL ) LILLY & CO ELI.
XX
XX Gerlitz BE, Grinnell BW;
XX
XX WPI; 1991-254443/35.
XX
XX Claim 5; Page 28; 47pp; English.
XX
XX The zymogen forms of HPC represented in AAR13582, AAR13584, AAR13585 and
XX AAR1397 have altered glycosylation patterns due to site-directed changes
XX in the native HPC gene encoding the amino acid sequence. When activated,
XX they have higher amidolytic and anticoagulant activity than the native
XX form and opt. increased affinity for thrombin. E. coli K12 AG1/pUPC-Q248
XX (NRRL B-18609) was obtained contg. the gene coding for the Asn-248-Gln
XX mutation. pUPC-Q248 was recovered to transform 293 cells which were
XX cultured to produce the zymogen mutant. The mutant had an amidolytic
XX activity of 63 units/mg and anticoagulant activity of 669 units/mg
XX compared to 35 units/mg and 325 units/mg respectively for wild-type
XX activated HPC. (Updated on 25-MAR-2003 to correct PA field.)
XX
XX SQ Sequence 461 AA:
XX
XX Query Match 99.7%; Score 2318; DB 2; Length 461;
XX Best Local Similarity 99.8%; Pred. No. 8.2e-143;
XX Matches 418; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
XX
XX 1 ANSFLELRHSLRECEIEICDFEAKKEIFQNVDDTLAFWSKRVDDQCLVPLPHEPCA 60
XX 43 ANSTLELRHSLRECEIEICDFEAKKEIFQNVDDTLAFWSKRVDDQCLVPLPHEPCA 102
XX

```

QY 61 SLCCGHTCTIDIGISFSCDCRSWGSEFCQREVSFLNCSLDNGGCTHYCLAEVGMRRCSG 120  
 DB 103 SLCCGHTCTIDIGISFSCDCRSWGSEFCQREVSFLNCSLDNGGCTHYCLAEVGMRRCSG 162  
 QY 121 APGYKLGDDLLQCHPAKVFPCGRPMKMEKRSKSLKRTDEDEQDVDPRLIDGKMTRRGD 180  
 DB 163 APGYKLGDDLLQCHPAKVFPCGRPMKMEKRSKSLKRTDEDEQDVDPRLIDGKMTRRGD 222  
 QY 181 SPWQVLLDSKKKLAACAVALIHPSWVLTAAHCDMSKSLVRLGEYDLRMEKMELDLDI 240  
 DB 223 SPWQVLLDSKKKLAACAVALIHPSWVLTAAHCDMSKSLVRLGEYDLRMEKMELDLDI 282  
 QY 241 KEVFPVHPNYSKSTTDNDIALHLAQPATLSQITVPCIPDSGLARELNQAQGETLVYTGW 300  
 DB 283 KEVFPVHPNYSKSTTDNDIALHLAQPATLSQITVPCIPDSGLARELNQAQGETLVYTGW 342  
 QY 301 GYHSREKAKNRRTFVNLFIKIPVPHNECSEVMSNMVSENMLCAGILGRQDACEGDS 360  
 DB 343 GYHSREKAKNRRTFVNLFIKIPVPHNECSEVMSNMVSENMLCAGILGRQDACEGDS 402  
 QY 361 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGYTKVSRILDMTHGHIDKAPQKSMAP 419  
 DB 403 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGYTKVSRILDMTHGHIDKAPQKSMAP 461

## RESULT 37

AA035760  
 ID AA035760 standard; protein; 419 AA.

XX AC AA035760;  
 XX DT 25-MAR-2003 (revised)  
 DT 24-SEP-1993 (first entry)  
 XX DE Protein C (PC).  
 XX KW PC; protein C; IX; Factor IX; X; Factor X; PT; prothrombin; VII;  
 KW Factor VIII; CT; chymotrypsinogen; SP; serine protease; binding; exosite;  
 KW catalytic activity.  
 XX OS Homo sapiens.

XX Key Location/Qualifiers  
 FH 1. 157  
 FH Region /note= "protein C light chain"  
 FT Peptide /note= "Pref. PC polypeptide; claim 2, page 136"  
 FT Region 142. 155  
 FT 158. 169  
 FT /note= "protein C activation"  
 FT Region 170. 419  
 FT /note= "protein C heavy chain"  
 FT Peptide 266. 287  
 FT /note= "claim 5, page 137 describes an antibody that  
 FT reacts with PC; fragments 311-325 and 142-155 but not  
 FT with fragment 266-287"  
 FT Peptide 311. 331  
 FT /note= "exosite 2"  
 FT Peptide 311. 325  
 FT /note= "Pref. PC polypeptide; claim 2, page 136"  
 FT Peptide 390. 404  
 FT /note= "exosite 1; claim 1, page 136"  
 XX PV W09309804-A1.  
 XX PD 27-MAY-1993.  
 XX PF 18-NOV-1992; 92MO-US010242.  
 XX PR 18-NOV-1991; 91US-00793989.  
 XX DA (SCRI ) SCRIPPS RES INST.  
 XX

PI Griffin JH, Meesters RM;  
 XX WPI; 1993-182244/22.  
 DR Serine protease derived-polypeptide(s) and anti-peptide antibodies - for  
 XX PT inhibiting coagulation and assaying for the presence of serine protease  
 PT in fluid samples.  
 XX PS Disclosure: Page 124-126; 149pp; English.  
 XX CC The PC polypeptides indicated in the Features Table inhibit coagulation  
 CC (they prevent binding of serine protease to natural substrates), esp.  
 CC when admin. to give an intravascular blood concn. of 0.1-100 (pref. 0.5-  
 CC 10) microm. NB: Sequences corresp. to SEQ ID NO 6, 7, 8 and 9 are  
 CC described in the specification but have not yet been added to the  
 CC SEQUENCE LISTING. (Updated on 25-MAR-2003 to correct PN field.)  
 XX SQ  
 XX Sequence 419 AA;

Query Match 99.7%; Score 2317; DB 2; Length 419;  
 Best Local Similarity 99.8%; Pred. No. 8.7e-143;  
 Matches 418; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSFLEELRHSLSRECEIEICDFEEAKEIFONVDTLAFKSHVDGQCLVPLEHPCA 60  
 DB 1 ANSFLEELRHSLSRECEIEICDFEEAKEIFONVDTLAFKSHVDGQCLVPLEHPCA 60  
 QY 61 SLCCGHTCTIDIGISFSCDCRSWGSEFCQREVSFLNCSLDNGGCTHYCLAEVGMRRCSG 120  
 DB 61 SLCCGHTCTIDIGISFSCDCRSWGSEFCQREVSFLNCSLDNGGCTHYCLAEVGMRRCSG 120  
 QY 121 APGYKLGDDLLQCHPAKVFPCGRPMKMEKRSKSLKRTDEDEQDVDPRLIDGKMTRRGD 180  
 DB 121 APGYKLGDDLLQCHPAKVFPCGRPMKMEKRSKSLKRTDEDEQDVDPRLIDGKMTRRGD 180  
 QY 181 SPWQVLLDSKKKLAACAVALIHPSWVLTAAHCDMSKSLVRLGEYDLRMEKMELDLDI 240  
 DB 181 SPWQVLLDSKKKLAACAVALIHPSWVLTAAHCDMSKSLVRLGEYDLRMEKMELDLDI 240  
 QY 241 KEVFPVHPNYSKSTTDNDIALHLAQPATLSQITVPCIPDSGLARELNQAQGETLVYTGW 300  
 DB 241 KEVFPVHPNYSKSTTDNDIALHLAQPATLSQITVPCIPDSGLARELNQAQGETLVYTGW 300  
 QY 301 GYHSREKAKNRRTFVNLFIKIPVPHNECSEVMSNMVSENMLCAGILGRQDACEGDS 360  
 DB 301 GYHSREKAKNRRTFVNLFIKIPVPHNECSEVMSNMVSENMLCAGILGRQDACEGDS 360  
 QY 361 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGYTKVSRILDMTHGHIDKAPQKSMAP 419  
 DB 361 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGYTKVSRILDMTHGHIDKAPQKSMAP 419

## RESULT 38

AA099047  
 ID AA099047 standard; protein; 419 AA.

XX AC AA099047;  
 XX DT 23-AUG-2002 (first entry)  
 XX DE Human Protein C zymogen protein mutant H303N.  
 XX KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX OS Homo sapiens.  
 OS Synthetic.  
 XX Key Location/Qualifiers  
 FH

FT Protein 1..155  
 FT /label= Light\_chain  
 FT Peptide 156..157  
 FT /label= Lys\_Arg\_dipeptide  
 FT Protein 158..419  
 FT /label= Heavy\_chain  
 FT Peptide 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 303  
 FT /note= "Wild-type His substituted by Asn"  
 XX  
 XX MO200232461-A2.  
 XX  
 XX 25-APR-2002.  
 XX  
 XX 15-OCT-2001; 2001WO-DK000679.  
 XX  
 XX 18-OCT-2000; 2000DK-00001560.  
 XX 18-OCT-2000; 2000US-0242268P.  
 XX 21-JUN-2001; 2001DK-00000970.  
 XX 21-JUN-2001; 2001US-0300154P.  
 XX  
 XX (MAXY-) MAXYGEN APS.  
 XX (MAXY-) MAXYGEN HOLDINGS LTD.  
 XX  
 XX Andersen KV, Pedersen AH, Freskgard PO;  
 XX WPI; 2002-489875/52.  
 XX  
 XX Novel conjugate useful for treating or preventing septic shock, stroke  
 XX and myocardial infarction, comprises non-polypeptide group covalently  
 XX attached to protein C polypeptide comprising an attachment group.  
 XX  
 XX Claim 9; Page; 92pp; English.  
 XX  
 XX The invention relates to a conjugate (I) comprising at least one non-  
 XX polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 XX a protein C polypeptide comprising an amino acid sequence which differs  
 XX from that of a parent protein C polypeptide (III) in at least one  
 XX introduced and/or at least one removed amino acid residue comprising an  
 XX attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 XX site). Also included are (1) a variant (IV) of (III) comprising a  
 XX substitution in a position (P) where (P) is an amino acid with at least  
 XX 25% of its side group exposed to the surface, with the proviso that the  
 XX substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 XX Tyr102Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe16Ser/Ala/Thr/  
 XX His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 XX (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 XX comprising (V) or (VI); (5) increasing (W2) the functional in vivo half-  
 XX life or the serum half-life of a parent protein C polypeptide. The  
 XX conjugates, variants and protein C proteins are useful as medicaments,  
 XX and in the manufacture of medicaments for the treatment (and  
 XX diagnosis/prevention) of stroke, myocardial infarction, after venous  
 XX thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 XX shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 XX transplantation, burns, pregnancy, major surgery/trauma or adult  
 XX respiratory distress syndrome (ARDS). The variant protein C has an  
 XX increased resistance to activation by e.g. human plasma and alpha-1  
 XX antitrypsin. The conjugates have an increased in vivo half-life,  
 XX increased serum half-life, increased resistance to inhibitors, reduced  
 XX renal clearance, reduced immunogenicity and/or increased bioavailability.  
 XX The conjugate offers a number of advantages over the currently available  
 XX APC products, including longer duration between injections, Moreover,  
 XX administration of less protein, and fewer side effects. Moreover, a  
 XX reduced anticoagulant activity is beneficial to reduce the risk of  
 XX bleeding while maintaining the antiinflammatory activity of APC  
 XX (activated protein C) conjugates. This must be especially important when  
 XX the conjugate has an extended plasma life. The gene for protein C is  
 XX located on chromosome 2q13-q14. The present sequence represents a zymogen  
 XX protein C variant of the invention. Note: The present sequence is not  
 XX shown in the specification but was created by the indexer using the  
 XX protein C sequence appearing as AA099002 and the information in claim 9

SQ Sequence 419 AA;  
 Query Match 99.7%; Score 2317; DB 5; Length 419;  
 Best Local Similarity 99.8%; Pred. No. 8.7e-143;  
 Matches 418; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 ANSFLEERHSLSERECIEICDFEAKEIFQNVDDTLAFMSKVDQDLVPLEHPCA 60  
 DB 1 ANSFLEERHSLSERECIEICDFEAKEIFQNVDDTLAFMSKVDQDLVPLEHPCA 60  
 QY 61 SLCCGHTCIDIGISFSCDGRSGWGRFCQREVSFLNCLDNGGCTHYCLFEVGRRCSC 120  
 DB 61 SLCCGHTCIDIGISFSCDGRSGWGRFCQREVSFLNCLDNGGCTHYCLFEVGRRCSC 120  
 QY 121 APGYKLGDLLQCHPAKPEPCGRPWKREKRSHTLRDDEDDQVDPRLIDKMTRRGD 180  
 DB 121 APGYKLGDLLQCHPAKPEPCGRPWKREKRSHTLRDDEDDQVDPRLIDKMTRRGD 180  
 QY 121 APGYKLGDLLQCHPAKPEPCGRPWKREKRSHTLRDDEDDQVDPRLIDKMTRRGD 180  
 DB 121 APGYKLGDLLQCHPAKPEPCGRPWKREKRSHTLRDDEDDQVDPRLIDKMTRRGD 180  
 QY 181 SPQVVLIDSKKKLACGAVLHPSWVLPAAHCDMSKLLVLSGYDIRWEKMEIDLDI 240  
 DB 181 SPQVVLIDSKKKLACGAVLHPSWVLPAAHCDMSKLLVLSGYDIRWEKMEIDLDI 240  
 QY 241 KEVFAHPNYSKSTTDNDIALHLAQPATLSQTYVPCLPDSGLAREINQAGETLVGM 300  
 DB 241 KEVFAHPNYSKSTTDNDIALHLAQPATLSQTYVPCLPDSGLAREINQAGETLVGM 300  
 QY 301 GYNSREKEKARNPTPLNFRIKIPVPHNECEVMSNMVSENNLCAGILGDRDACEGDS 360  
 DB 301 GYNSREKEKARNPTPLNFRIKIPVPHNECEVMSNMVSENNLCAGILGDRDACEGDS 360  
 QY 361 GGPVVASFHGTWFLVGLVSGSGCGLLHNYGYTKYSRYLDWIHGHIDKAPKSNAP 419  
 DB 361 GGPVVASFHGTWFLVGLVSGSGCGLLHNYGYTKYSRYLDWIHGHIDKAPKSNAP 419  
 RESULT 39  
 AA099069 standard; protein; 419 AA.  
 ID AA099069  
 AC AA099069;  
 DT 23-AUG-2002 (first entry)  
 DE Human Protein C zymogen protein mutant V334N.  
 KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 FH Key  
 FT Location/Qualifiers  
 FT 1..155  
 FT /label= Light\_chain  
 FT Peptide 156..157  
 FT /label= Lys\_Arg\_dipeptide  
 FT Protein 158..419  
 FT /label= Heavy\_chain  
 FT Peptide 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 334  
 FT /note= "Wild-type Val substituted by Asn"  
 XX  
 XX MO200232461-A2.  
 XX  
 XX 25-APR-2002.  
 XX  
 XX 15-OCT-2001; 2001WO-DK000679.  
 XX





XX Claim 9, Page: 92pp; English.

CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (II) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln.  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 XX

Sequence 419 AA:

Query Match 99.7%; Score 2317; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 8,7e-143;  
 Matches 417; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLELRHSSLEERCIEICDFFBAKEIFQNVDTLAFWSKRVDSQCIVLPLEHPQA 60  
 DB 1 ANSFLELRHSSLEERCIEICDFFBAKEIFQNVDTLAFWSKRVDSQCIVLPLEHPQA 60  
 QY 61 SLCCGNGTCTIDIGISFGDCSGMEGRFCQRFVSLNCSLDN3GCTHCLLEBVMKRCSC 120  
 DB 61 SLCCGNGTCTIDIGISFGDCSGMEGRFCQRFVSLNCSLDN3GCTHCLLEBVMKRCSC 120  
 QY 121 APGYKGGDILLQCHPAVFPQGRPMKMEKKSLSLKDTEDQEDQVPRLLIDGMOTRRGD 180  
 DB 121 APGYKGGDILLQCHPAVFPQGRPMKMEKKSLSLKDTEDQEDQVPRLLIDGMOTRRGD 180  
 QY 181 SPWQVVLIDSKKKLACGAVLIHPSWVLTAAHOMESKKLIVRIGEDVLRMEKKEMLDLDI 240  
 DB 181 SPWQVVLIDSKKKLACGAVLIHPSWVLTAAHOMESKKLIVRIGEDVLRMEKKEMLDLDI 240  
 QY 241 KEVVPHPNYSKSTNDTALHIAOPATLSQTTIVPLCPDSGLARELNQAGQETLVGM 300  
 DB 241 KEVVPHPNYSKSTNDTALHIAOPATLSQTTIVPLCPDSGLARELNQAGQETLVGM 300  
 QY 301 GYHSRREKAKRNRFTVNFITKIPVPHNECESEVSNVSENMICAGIIGDRQACGSDS 360  
 DB 301 GYHSRREKAKRNRFTVNFITKIPVPHNECESEVSNVSENMICAGIIGDRQACGSDS 360  
 QY 361 GGPVYASPHGTWFLVGLVSKGEGCGLLHNYGYTVKVSRYLDMIGHIRKKEAPQKSNAP 419

Db 361 GGPVYASPHGTWFLVGLVSKGEGCGLLHNYGYTVKVSRYLDMIGHIRKKEAPQKSNAP 419

RESULT 41  
 AAU99075  
 ID AAU99075 standard; protein; 419 AA.  
 AC  
 XX AAU99075;  
 DT 23-AUG-2002 (first entry)  
 DE  
 XX Human Protein C zymogen protein mutant M38N.  
 KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutain.  
 XX  
 XX Homo sapiens.  
 OS Synthetic.  
 FH Key  
 FT Protein  
 FT Peptide  
 FT Peptide  
 FT Protein  
 FT Peptide  
 FT Peptide  
 FT Misc-difference 338  
 FT /note= "Wald-type Met substituted by Asn"  
 XX  
 XX WO200232461-A2.  
 XX 25-APR-2002.  
 XX 15-OCT-2001; 2001WO-DK000679.  
 XX 18-OCT-2000; 2000DK-00001560.  
 XX 18-OCT-2000; 2000US-0242268P.  
 XX 21-JUN-2001; 2001DK-00000970.  
 XX 21-JUN-2001; 2001US-0300154P.  
 XX (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 PI Andersen KV, Pedersen AH, Freskgaard PO;  
 DR WPI; 2002-489875/52.  
 XX  
 XX Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 PS  
 XX  
 XX Claim 9, Page: 92pp; English.  
 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-

CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9

XX Sequence 419 AA;

Query Match 99.7%; Score 2317; DB 5; Length 419;

Best Local Similarity 99.8%; Pred. No. 8.7e-143; Indels 0; Gaps 0;

Matches 418; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSFLEELRHSSIERECIEICDPEFAKEIFONVDDTLAFMSKRVHGDGCVLPLEHPCA 60  
 Db 1 ANSFLEELRHSSIERECIEICDPEFAKEIFONVDDTLAFMSKRVHGDGCVLPLEHPCA 60  
 QY 61 SICCGHGTCTIDIGSPSCDCSGWEGRPGCEVSLNCSLDNGCCTHYCLEWGRKSC 120  
 Db 61 SICCGHGTCTIDIGSPSCDCSGWEGRPGCEVSLNCSLDNGCCTHYCLEWGRKSC 120  
 QY 121 AAGYKLGDDLLQCHPAKPCGGRPMKMEKKSJH.KRTEJOEPOVDPLIDGKKTRGD 180  
 Db 121 AAGYKLGDDLLQCHPAKPCGGRPMKMEKKSJH.KRTEJOEPOVDPLIDGKKTRGD 180  
 QY 121 AAGYKLGDDLLQCHPAKPCGGRPMKMEKKSJH.KRTEJOEPOVDPLIDGKKTRGD 180  
 Db 121 AAGYKLGDDLLQCHPAKPCGGRPMKMEKKSJH.KRTEJOEPOVDPLIDGKKTRGD 180  
 QY 181 SPWQVLLIDSKKKLACGAVLTHPSWVLTAAHCDSESKLLVRLGEYDLRLRMEKWLDDI 240  
 Db 181 SPWQVLLIDSKKKLACGAVLTHPSWVLTAAHCDSESKLLVRLGEYDLRLRMEKWLDDI 240  
 QY 241 KEVFVHPYKSKSTTDNDIALHLAOPATLSQITVPLCPDSGLAFERINQAQETLVYGM 300  
 Db 241 KEVFVHPYKSKSTTDNDIALHLAOPATLSQITVPLCPDSGLAFERINQAQETLVYGM 300  
 QY 301 GHSSREKEAKRRTVNLFIKIPVPHNECSFWSNMVSENMLCAGILGRQDACEGDS 360  
 Db 301 GHSSREKEAKRRTVNLFIKIPVPHNECSFWSNMVSENMLCAGILGRQDACEGDS 360  
 QY 361 GGPWVASFHGTWELVGLVSMGEGCGLLHNYGVYTKVSRYLDMIGHIRDEKAPQKSNAP 419  
 Db 361 GGPWVASFHGTWELVGLVSMGEGCGLLHNYGVYTKVSRYLDMIGHIRDEKAPQKSNAP 419

RESULT 42

AAU99043 ID AAU99043 standard; protein; 419 AA.

AAU99043; AAU99043;

23-AUG-2002 (first entry)

Human Protein C zymogen protein mutant L236N.

KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;

KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX Homo sapiens.  
 OS Synthetic.

XX Key Location/Qualifiers  
 FX 1. .155  
 FT Protein /label= Light\_chain  
 FT Peptide /label= Lys\_Arg\_dipeptide  
 FT Protein /label= Heavy\_chain  
 FT Peptide /label= Heavy\_chain  
 FT Peptide /label= Heavy\_chain  
 FT Misc-difference 296  
 FT /note= "Wild-type Leu substituted by Asn"

MO200232461-A2.

25-APR-2002.

15-OCT-2001; 2001MO-DK000679.

18-OCT-2000; 2000DK-0001560.

18-OCT-2000; 2000US-0242268P.

21-JUN-2001; 2001DK-00000970.

21-JUN-2001; 2001US-0300154P.

(MAXY-) MAXYGEN APS.

(MAXY-) MAXYGEN HOLDINGS LTD.

Anderen KV, Pedersen AH, Freskgaard PO;

WPI: 2002-489875/52.

Novel conjugate useful for treating or preventing septic shock, stroke

and myocardial infarction, comprises non-polypeptide group covalently

attached to protein C polypeptide comprising an attachment group.

Claim 9; Page; 92pp; English.

XX The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gln or Phe316Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life of the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antinflammatory activity of APC

CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 SQ Sequence 419 AA;

Query Match 99.7%; Score 2317; DB 5; Length 419;  
 Best Local Similarity 99.8%; Pred. No. 8,7e-143;  
 Matches 418; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSFLELRHSLSLEKIEICDPFEAKETIQVNDPTLAFWKSHVDGQCLVPLEHPCA 60  
 DB 1 ANSFLELRHSLSLEKIEICDPFEAKETIQVNDPTLAFWKSHVDGQCLVPLEHPCA 60  
 QY 61 SLCCGHTCIDIGISFSCDRCRSGMGRFCQREVSFLNCSLNDGCTHYCLEVGMRRCSG 120  
 DB 61 SLCCGHTCIDIGISFSCDRCRSGMGRFCQREVSFLNCSLNDGCTHYCLEVGMRRCSG 120  
 QY 121 APGYKLGDDLQCHPAVPCGCPWKRMEKRSKSLKDTEDQDQVDPRLIDGKTRRGD 180  
 DB 121 APGYKLGDDLQCHPAVPCGCPWKRMEKRSKSLKDTEDQDQVDPRLIDGKTRRGD 180  
 QY 181 SPQVVLDSKKKLAAGAVLHPSWVLTAAHOMDSKKLLVRLGEYDLRMEKWELEDDI 240  
 DB 181 SPQVVLDSKKKLAAGAVLHPSWVLTAAHOMDSKKLLVRLGEYDLRMEKWELEDDI 240  
 QY 241 KEVFHHPNYSKSTTNDIALHLAOPATLSQTIIVICLPDPSGLARELNOAGQETLVYGM 300  
 DB 241 KEVFHHPNYSKSTTNDIALHLAOPATLSQTIIVICLPDPSGLARELNOAGQETLVYGM 300  
 QY 301 GYHSSEKAKRNRTFVNLFIKIPVPHNECSEVMNSMNSMNLCAGLIGDRDACEGDS 360  
 DB 301 GYHSSEKAKRNRTFVNLFIKIPVPHNECSEVMNSMNSMNLCAGLIGDRDACEGDS 360  
 QY 361 GGPVVASFHGTWFLVGLVSWGSGCLLHNYGYTVKRSYLDMLHGHIRDEKAPQKSNAP 419  
 DB 361 GGPVVASFHGTWFLVGLVSWGSGCLLHNYGYTVKRSYLDMLHGHIRDEKAPQKSNAP 419

RESULT 43  
 AAU25086  
 ID AAU25086 standard; protein; 460 AA.

XX AC AAU25086;  
 XX DT 11-DEC-1997 (first entry)  
 XX DE Human protein C.  
 XX KW Protein C; transgenic animal; sheep; rabbit; cattle; goat; milk;  
 XX KM blood clotting; anticoagulant; human.  
 XX OS Homo sapiens.  
 XX  
 FH Key Location/Qualifiers  
 FT Cleavage-site /note="two-chain cleavage site"  
 FT  
 XX MO9720043-A1.

XX ED 05-JUN-1997.  
 XX PF 26-NOV-1996; 96MO-US018866.  
 XX PR 30-NOV-1995; 95US-00565074.  
 XX PR 13-JUN-1996; 96US-0019692P.  
 XX (ZYMO ) ZYMOGENETICS INC.  
 XX (PPLT-) PPL THERAPEUTICS.  
 XX

PI Garner I, Cottingham I, Temperley SM, Foster DC, Sprecher CA;  
 PI Prunkard DE;  
 XX WPI; 1997-310599/28.  
 DR N-PSDB; AAT9723, AAT9724.  
 XX  
 PT Production of protein C in transgenic animal - useful for high quantity  
 PT protein C production with therapeutic value.  
 PS Disclosure; Page 58-60; 99pp; English.

CC This polypeptide comprises human protein C. A claimed method for  
 CC producing recombinant human protein C in the milk of a transgenic animal  
 CC involves: (a) providing a DNA construct comprising DNA encoding a  
 CC secretion signal and a protein C propeptide, operably linked to DNA  
 CC encoding two-chain cleavage site-modified protein C, the 2 DNA sequences  
 CC being linked to elements required for protein C expression in a mammary  
 CC gland of a host female animal; and (b) using the DNA construct to breed a  
 CC transgenic animal (esp. sheep, rabbit, cattle, goat) that produces  
 CC protein C in its milk, at least 90% of the protein C being in the two-  
 CC chain form. Modification of the protein C two-chain cleavage site (see  
 CC AAU25085) improves the maturation of recombinant protein C from single  
 CC chain to two-chain form  
 XX

SQ Sequence 460 AA;  
 Query Match 99.7%; Score 2317; DB 2; Length 460;  
 Best Local Similarity 100.0%; Pred. No. 9.5e-143;  
 Matches 418; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLELRHSLSLEKIEICDPFEAKETIQVNDPTLAFWKSHVDGQCLVPLEHPCA 60  
 DB 43 ANSFLELRHSLSLEKIEICDPFEAKETIQVNDPTLAFWKSHVDGQCLVPLEHPCA 102  
 QY 61 SLCCGHTCIDIGISFSCDRCRSGMGRFCQREVSFLNCSLNDGCTHYCLEVGMRRCSG 120  
 DB 103 SLCCGHTCIDIGISFSCDRCRSGMGRFCQREVSFLNCSLNDGCTHYCLEVGMRRCSG 162  
 QY 121 APGYKLGDDLQCHPAVPCGCPWKRMEKRSKSLKDTEDQDQVDPRLIDGKTRRGD 180  
 DB 163 APGYKLGDDLQCHPAVPCGCPWKRMEKRSKSLKDTEDQDQVDPRLIDGKTRRGD 222  
 QY 181 SPQVVLDSKKKLAAGAVLHPSWVLTAAHOMDSKKLLVRLGEYDLRMEKWELEDDI 240  
 DB 223 SPQVVLDSKKKLAAGAVLHPSWVLTAAHOMDSKKLLVRLGEYDLRMEKWELEDDI 282  
 QY 241 KEVFHHPNYSKSTTNDIALHLAOPATLSQTIIVICLPDPSGLARELNOAGQETLVYGM 300  
 DB 283 KEVFHHPNYSKSTTNDIALHLAOPATLSQTIIVICLPDPSGLARELNOAGQETLVYGM 342  
 QY 301 GYHSSEKAKRNRTFVNLFIKIPVPHNECSEVMNSMNSMNLCAGLIGDRDACEGDS 360  
 DB 343 GYHSSEKAKRNRTFVNLFIKIPVPHNECSEVMNSMNSMNLCAGLIGDRDACEGDS 402  
 QY 361 GGPVVASFHGTWFLVGLVSWGSGCLLHNYGYTVKRSYLDMLHGHIRDEKAPQKSNAP 418  
 DB 403 GGPVVASFHGTWFLVGLVSWGSGCLLHNYGYTVKRSYLDMLHGHIRDEKAPQKSNAP 460

RESULT 44  
 AAU99013  
 ID AAU99013 standard; protein; 419 AA.

XX AC AAU99013;  
 XX DT 23-AUG-2002 (first entry)  
 XX DE Human Protein C zymogen protein mutant K193N/A195S.  
 XX KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 XX serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 XX after venous thrombosis; disseminated intravascular coagulation; DIC;  
 XX sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW

KW	bone marrow transplantation; major surgery; trauma; ARDS; coagulant;
XN	adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; muretin.
XX	Homo sapiens.
OS	Synthetic.
XX	
FH	Key
FT	Location/Qualifiers
FT	1..155
FT	/label= Light_chain
FT	Peptide
FT	156..157
FT	/label= Lys_Arg_dipeptide
FT	Protein
FT	158..419
FT	/label= Heavy_chain
FT	Peptide
FT	158..169
FT	/label= Activation_peptide
FT	Misc-difference 193
FT	/note= "Wild-type Lys substituted by Asn"
FT	Misc-difference 195
FT	/note= "Wild-type Ala substituted by Ser"
XX	
PN	WO200223461-A2.
XX	
PD	
XX	25-APR-2002.
PF	
XX	15-OCT-2001; 2001WO-DK00679.
PR	
XX	18-OCT-2000; 2000DK-00001560.
PR	18-OCT-2000; 2000US-0242266P.
PR	21-JUN-2001; 2001DK-00000970.
PR	21-JUN-2001; 2001US-0300154P.
XX	
PA	(MAXY-) MAXYGEN ABS.
PA	(MAXY-) MAXYGEN HOLDINGS LTD.
PJ	
PI	Andersen KV, Pedersen AH, Frestgaard PO;
XX	
DR	WPI; 2002-489875/52.
XX	
PT	Novel conjugate useful for treating or preventing septic shock, stroke
PT	and myocardial infarction, comprises non-polypeptide group covalently
PT	attached to protein C polypeptide comprising an attachment group.
XX	
PS	Claim 9; Page: 92pp; English.
XX	
CC	The invention relates to a conjugate (I) comprising at least one non-
CC	polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to
CC	a protein C polypeptide comprising an amino acid sequence which differs
CC	from that of a parent protein C polypeptide (III) in at least one
CC	introduced and/or at least one removed amino acid residue comprising an
CC	attachment group for the non-polypeptide group (e.g. an N-glycosylation
CC	site). Also included are (1) a variant (IV) of (III) comprising a
CC	substitution in a position (P) where (P) is an amino acid with at least
CC	25% of its side group exposed to the surface, with the proviso that the
CC	substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,
CC	Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe165Ser/Ala/Thr/ Tyr/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VIII)
CC	comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-
CC	life or the serum half-life of a parent protein C polypeptide. The
CC	conjugates, variants and protein C proteins are useful as medicaments, and in the manufacture of medicaments for the treatment (and
CC	diagnosis/prevention) of stroke, myocardial infarction, after venous
CC	thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic
CC	shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow
CC	transplantation, burns, pregnancy, major surgery/trauma or adult
CC	respiratory distress syndrome (ARDS). The variant protein C has an
CC	increased resistance to activation by e.g. human plasma and alpha-1
CC	antitrypsin. The conjugates have an increased in vivo half-life, increased serum half-life, increased resistance to inhibitors, reduced
CC	renal clearance, reduced immunogenicity and/or increased bioavailability.
CC	The conjugate offers a number of advantages over the currently available
CC	APC products, including longer duration between injections, Moreover, a
CC	administration of less protein, and fewer side effects. Moreover, a

	CC	reduced anticoagulant activity is beneficial to reduce the risk of bleeding while maintaining the antiinflammatory activity of APC
	CC	(activated protein C) conjugates. This must be especially important when the conjugate has an extended plasma life. The gene for protein C is located on chromosome 2q13-q14. The present sequence represents a zymogen CC protein C variant of the invention. Note: The present sequence is not shown in the specification but was created by the indexer using the CC protein C sequence appearing as AAU99002 and the information in claim 9
SQ	XX	Sequence 419 AA;
	DG	Query Match            99.7%; Score 2316; DB 5; Length 419; Best Local Similarity   99.5%; Pred. No. 1e-142 Matches     417; Conservative      1; Mismatches        1; Indels          0; Gaps          0
OY		1 ANSTLEELPHSLRECEIEICDPEEKKETFOVNDDTLAFMSKHYVGDDCVTLPLEHPCA 60
DB		1 ANSFLSELHSSLRETETEIEDFEAEKEIFQVNDDTLAFFSKHVGDCLVLPLRHPCA 60
OY		61 SLTCGGGTCTIDIGISFSCDSRGMGGRPCOREVSFLNCSLDNGCETHYCLESYGMRBSC 120
DB		61 SLCGGGTCTIDIGISFSFCDSRGMWGRGCQRERVSFLNSILSDNGCETHYCLESVGRRCSC 120
OY		121 APGYKLGDLLLOCPANAYPCPGRPMPKRMEKKRSHLKPTEOEHQVDVPRLIDGWKTREG 180
DB		121 APTGLKDILLLOCHPAYKPCGRPMWRMEKKRRSHLPRTEDQEEOVDPPILDGNTRERG 180
OY		181 SPMDVVLTLSCKKALACAVLVIHPSWVTFAACHMDESSKLLVRLEGYDLRRMKEMELDIDI 240
DB		181 SPMDVVLTLSKKNLSCGAIVLIHPSWVTFAAHCMDESKLLVRIEGYDLRRMKEMELDIDI 240
OY		241 KEVFVHNPTSSTTDNDIALIHLAOPATLSQTITPCLPDGSGLARELNQAQETLVTVGW 300
DB		241 KEVFVNPNTSKSSTDNDIALIHLAQPATLSQTIIVPLCLPDGSAERLINQAQETLVTVGW 300
OY		301 GHSSSRPKAKRNRFYNLFNTKIPIVAPNHNCSEVMNMVSENMLCAGILGRDAQACEGDS 360
DB		301 GHSSSRKKAKNRNFVANLKIPVPNPNECESVMNMVSENMLCAGILGRDAQCAGEDS 360
OY		361 GGPMVASFHGTWFVLGVSGECGGLINNVGVTRYKVRYTLMIGHIRIDEKAPOKSWAP 419
DB		361 GGPMVAASFHGWTFLVLGVSGECGGLINVGVTRYKYRYTDMIGHIRIDEKAPOKSWAP 419
RESULT 45		
AU99019	ID	AAU99019 standard; protein: 419 AA.
XX AC	AAU99019;	
XX XX	23-AUG-2002	(first entry)
DE XX		Human Protein C zymogen protein mutant S216N/K218S.
KX KM		Human: Protein C; N-glycosylation; APC; activated protein C; zymogen; serum half-life; chromosomes 2q13-q14; stroke; myocardial infarction; after venous thrombosis; disseminated intravascular coagulation; DIC; sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy; bone marrow transplantation; major surgery; trauma; ARDS; coagulant; adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.
OS OS	Homo sapiens.	
XX OS	Synthetic.	
FH FH	Key	Location/Qualifiers
FT FT	Protein	/label= Light_chain
FT FT	Peptide	/label= Heavy_chain
FT FT	Protein	/label= Lys_Arg_dipeptide
FT FT	Protein	/label= Arg_Lys_dipeptide
FT FT	Peptide	/label= Activation_peptide

FT Misc-difference 216 /note= "Wild-type Ser substituted by Asn"  
 FT FT Misc-difference 218 /note= "Wild-type Lys substituted by Ser"  
 FT FT W0200232461-A2.  
 FT FT 25-APR-2002.  
 FT FT 15-OCT-2001; 2001WO-DK000679.  
 FT FT 18-OCT-2000; 2000DK-00001560.  
 FT FT 18-OCT-2000; 2000US-0242268P.  
 FT FT 21-JUN-2001; 2001DK-00000970.  
 FT FT 21-JUN-2001; 2001US-0300154P.  
 FT FT (MAXY-) MAXYGEN APS.  
 FT FT (MAXY-) MAXYGEN HOLDINGS LTD.  
 FT FT Andersen KV, Pedersen AH, Freshgaard PO;  
 FT FT WPI; 2002-489875/52.  
 FT FT Novel conjugate useful for treating or preventing septic shock, stroke  
 FT FT and myocardial infarction, comprises non-polypeptide group covalently  
 FT FT attached to protein C polypeptide comprising an attachment group.  
 FT FT Claim 9; Page; 92pp; English.  
 FT FT The invention relates to a conjugate (I) comprising at least one non-  
 FT FT polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 FT FT a protein C polypeptide comprising an amino acid sequence which differs  
 FT FT from that of a parent protein C polypeptide (III) in at least one  
 FT FT introduced and/or at least one removed amino acid residue comprising an  
 FT FT attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 FT FT site). Also included are (1) a variant (IV) of (III) comprising a  
 FT FT substitution in a position (P) where (P) is an amino acid with at least  
 FT FT 25% of its side group exposed to the surface, with the proviso that the  
 FT FT substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 FT FT Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe156Ser/Ala/Thr/  
 FT FT His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 FT FT (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 FT FT comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 FT FT life of the serum half-life of a parent protein C polypeptide. The  
 FT FT conjugates, variants and protein C proteins are useful as medicaments,  
 FT FT and in the manufacture of medicaments for the treatment (and  
 FT FT diagnosis/prevention) of stroke, myocardial infarction, after venous  
 FT FT thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 FT FT shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 FT FT transplantation, burns, pregnancy, major surgery/trauma or adult  
 FT FT respiratory distress syndrome (ARDS). The variant protein C has an  
 FT FT increased resistance to activation by e.g. human plasma and alpha-1  
 FT FT antitrypsin. The conjugates have an increased in vivo half-life,  
 FT FT increased serum half-life, increased resistance to inhibitors, reduced  
 FT FT renal clearance, reduced immunogenicity and/or increased bioavailability.  
 FT FT The conjugate offers a number of advantages over the currently available  
 FT FT APC products, including longer duration between injections,  
 FT FT administration of less protein, and fewer side effects. Moreover, a  
 FT FT reduced anticoagulant activity is beneficial to reduce the risk of  
 FT FT bleeding while maintaining the antiinflammatory activity of APC  
 FT FT (activated protein C) conjugates. This must be especially important when  
 FT FT the conjugate has an extended plasma life. The gene for protein C is  
 FT FT located on chromosome 2q13-q14. The present sequence represents a zymogen  
 FT FT protein C variant of the invention. Note: The present sequence is not  
 FT FT shown in the specification but was created by the indexer using the  
 FT FT protein C sequence appearing as AA099002 and the information in claim 9  
 FT FT SQ Sequence 419 AA;

Query Match 99.7%; Score 2316; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1e-142;  
 Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSPLEELRHSSLERECIEELCEPEAKEIFQVNDTLAFMSKRVDDQCLVPLEHPCA 60  
 Db 1 ANSPLEELRHSSLERECIEELCEPEAKEIFQVNDTLAFMSKRVDDQCLVPLEHPCA 60  
 QY 61 SLCCGHGTCIDIGIGSSCCCRSGMGKRCQREVSFLNGLNGGCTHYCLEEVGRRRSC 120  
 Db 61 SLCCGHGTCIDIGIGSSCCCRSGMGKRCQREVSFLNGLNGGCTHYCLEEVGRRRSC 120  
 QY 121 APGYKLGDLLQCHPAVKFPCGRPKMKMEKRSHLKRDEDOEQVDPRLIDKMTRRCD 180  
 Db 121 APGYKLGDLLQCHPAVKFPCGRPKMKMEKRSHLKRDEDOEQVDPRLIDKMTRRCD 180  
 QY 181 SPWQVLLDSKKKLACAGVLIHPSVWLTAAACMDSESKLIVLGEYDLRWEKWEIJDLDI 240  
 Db 181 SPWQVLLDSKKKLACAGVLIHPSVWLTAAACMDSESKLIVLGEYDLRWEKWEIJDLDI 240  
 QY 241 KEVFVHPVYSSTTDNDIALHLAQPATLSQITVPICLPDSGLARELMDAGGETLVG 300  
 Db 241 KEVFVHPVYSSTTDNDIALHLAQPATLSQITVPICLPDSGLARELMDAGGETLVG 300  
 QY 301 GHSSREKAKRNTFVLANFKIPVPHNECEVMSNMTESEMTCAGLDPRDACEGDS 360  
 Db 301 GHSSREKAKRNTFVLANFKIPVPHNECEVMSNMTESEMTCAGLDPRDACEGDS 360  
 QY 361 GGPVVASFHGTWFLVGLVSWGBCGLHNVTYKVSRYLDMIGHIRDRKAPQKSWAP 419  
 Db 361 GGPVVASFHGTWFLVGLVSWGBCGLHNVTYKVSRYLDMIGHIRDRKAPQKSWAP 419  
 RESULT 46  
 AAU99057  
 ID AAU99057 standard; protein; 419 AA.  
 XX AAU99057;  
 DT 23-AUG-2002 (first entry)  
 XX  
 DE Human Protein C zymogen protein mutant K308N/A310S.  
 KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX Homo sapiens.  
 OS Synthetic.  
 XX  
 FH Key Location/Qualifiers  
 FT Protein 1..155  
 FT Peptide /label= Light\_chain  
 FT Peptide /label= Lys\_Arg\_dipeptide  
 FT Protein 156..157  
 FT Peptide /label= Heavy\_chain  
 FT Peptide /label= Activation\_peptide  
 FT MISC-difference 308  
 FT /note= "Wild-type Lys substituted by Asn"  
 FT MISC-difference 310  
 FT /note= "Wild-type Ala substituted by Ser"  
 FT W0200232461-A2.  
 FT 25-APR-2002.  
 FT 15-OCT-2001; 2001WO-DK000679.  
 FT 18-OCT-2000; 2000DK-00001560.  
 FT 18-OCT-2000; 2000US-0242268P.  
 FT 21-JUN-2001; 2001DK-00000970.  
 FT 21-JUN-2001; 2001US-0300154P.

XX (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 XX  
 PI Andersen KV, Pedersen AH, Friesgaard PO;  
 XX  
 DR WPI: 2002-489875/52.  
 XX  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 PS  
 PS Claim 9; Page; 92pp; English.

XX The invention relates to a conjugate (I) comprising at least one non-  
 XX polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr24Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln/  
 CC Tyr30Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe15Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the anti-inflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 XX Sequence 419 AA;

Query Match 99.7%; Score 2316; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1e-14;  
 Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;  
 XX  
 XX 1 ANSPLEELRHSLSERECIEICDFEAKELIFQVNDTLAFWSKAVNDQCLVPLEHPCA 60  
 DB 1 ANSPLEELRHSLSERECIEICDFEAKELIFQVNDTLAFWSKAVNDQCLVPLEHPCA 60  
 XX  
 XX 61 SLCCGHTCTDGTGTSFCDRCRSGMGRFCQREVSFANGCNDGGCTHYCLEEYGMRRGSC 120  
 DB 61 SLCCGHTCTDGTGTSFCDRCRSGMGRFCQREVSFANGCNDGGCTHYCLEEYGMRRGSC 120  
 XX  
 XX 121 APGYKGLDILQCHPAKVPFCGRPMKREKRSHTLRDEDEQDQVPRLLIDSKMTRSD 180  
 DB 121 APGYKGLDILQCHPAKVPFCGRPMKREKRSHTLRDEDEQDQVPRLLIDSKMTRSD 180  
 XX  
 XX 181 SPQVYVLLDSKKKLACGAVLIHPSWVLTFAHCNDESKLLVLAGYDILRRKWEELDDI 240  
 DB 181 SPQVYVLLDSKKKLACGAVLIHPSWVLTFAHCNDESKLLVLAGYDILRRKWEELDDI 240

QY 241 KEVFAHPNYSKSTNDNIALIHLAOPATLSOTIVPICLPDSGLARELNQAGETLVTCM 300  
 DB 241 KEVFAHPNYSKSTNDNIALIHLAOPATLSOTIVPICLPDSGLARELNQAGETLVTCM 300  
 QY 301 GYHSSREKAEKRNRTFVNFPIKIPVPHNECEVMSNMVSENNLCAGILGRDQACGDS 360  
 DB 301 GYHSSRENSKRNRTFVNFPIKIPVPHNECEVMSNMVSENNLCAGILGRDQACGDS 360  
 QY 361 GGPVVASFHGTFVILGVLSNGEGCGLHNYGYTTVSRXYLDWTHGTRDKAPQKSNAP 419  
 DB 361 GGPVVASFHGTFVILGVLSNGEGCGLHNYGYTTVSRXYLDWTHGTRDKAPQKSNAP 419

## RESULT 47

ID AAU99007 standard; protein; 419 AA.

AC AAU99007;

DT 23-AUG-2002 (first entry)

DE Human Protein C zymogen protein mutant S190N/K192S.

KM Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KM serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KM after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KM sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KM bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KM adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.

OS Homo sapiens.  
 OS Synthetic.

FH Key Location/Qualifiers  
 FT Protein 1..155  
 FT Peptide 156..157  
 FT Peptide 158..419  
 FT Protein 158..419  
 FT Peptide 158..169  
 FT Peptide 158..169

FT Misc-difference 190 /label= Activation\_peptide  
 FT Misc-difference 192 /note= "Wild-type Ser substituted by Asn"  
 FT Misc-difference 192 /note= "Wild-type Lys substituted by Ser"

PN WO200232461-A2.

XX 25-APR-2002.

PE 15-OCT-2001; 2001MO-DK00679.

PR 18-OCT-2000; 2000DK-00001560.

PR 18-OCT-2000; 2000US-0242268P.

PR 21-JUN-2001; 2001DK-00009970.

PR 21-JUN-2001; 2001US-0300154P.

XX (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.

XX Andersen KV, Pedersen AH, Friesgaard PO;  
 DR WPI: 2002-489875/52.

XX Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 XX Claim 9; Page; 92pp; English.

CC The invention relates to a conjugate (I) comprising at least one non-





CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 XX Sequence 419 AA:  
 SQ

Query Match 99.7%; Score 2316; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1e-142;  
 Matches 417; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSLFELRHSLSIERECIEECDFEAKELFQNVDDTLATWSKHVDGQCLVLEHPCA 60  
 DB 1 ANSLFELRHSLSIERECIEECDFEAKELFQNVDDTLATWSKHVDGQCLVLEHPCA 60  
 QY 61 SLCCGAGTCTIDGSGFSCDCRSWGEGRFQCRVSTLNSLDNGSCHYCLEBVGMRSCSC 120  
 DB 61 SLCCGAGTCTIDGSGFSCDCRSWGEGRFQCRVSTLNSLDNGSCHYCLEBVGMRSCSC 120  
 QY 121 APGYKLGGDDLLQCHPAVYPCGEPWKRMEKSKSLKRTDEDOEDQVPRLLDGMRTREGD 180  
 DB 121 APGYKLGGDDLLQCHPAVYPCGEPWKRMEKSKSLKRTDEDOEDQVPRLLDGMRTREGD 180  
 QY 181 SPQOVVLLDSKKKLACGAVLTTHPSWVITAAHCHMDSSKCLVRLGEVDLRRMKWELDDLT 240  
 DB 181 SPQOVVLLDSKKKLACGAVLTTHPSWVITAAHCHMDSSKCLVRLGEVDLRRMKWELDDLT 240  
 QY 241 KEVFHPNYSKSTTNDIALHLAQPATLSQTTIVICLPSGIAERELNQAQGETLVYGM 300  
 DB 241 KEVFHPNYSKSTTNDIALHLAQPATLSQTTIVICLPSGIAERELNQAQGETLVYGM 300  
 QY 301 GYHSSREKAKRRKRTFVNFILKIPVPHNECSEVSNMVCAGIIGDRQACGSDS 360  
 DB 301 GYHSSREKAKRRKRTFVNFILKIPVPHNECSEVSNMVCAGIIGDRQACGSDS 360  
 QY 361 GGPWVASFHGTWFLVGLVSMRGCGGLHANYGYTYSRYLDWIGHIRKAPQKSWAP 419  
 DB 361 GGPWVASFHGTWFLVGLVSMRGCGGLHANYGYTYSRYLDWIGHIRKAPQKSWAP 419

RESULT 49

AAU99051 standard; protein; 419 AA.

AAU99051;

23-AUG-2002 (first entry)

Human Protein C zymogen protein mutant S305N/E307S.

Human, Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 after venous thrombosis; disseminated intravascular coagulation; DIC;  
 sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.

XX Homo sapiens.  
 OS Synthetic.  
 XX  
 XX Key Location/Qualifiers  
 XX Protein 1..155  
 XX Peptide /label= Light\_chain  
 XX Peptide 156..157  
 XX Protein /label= Lys\_Arg\_dipeptide  
 XX Peptide 158..419  
 XX Peptide /label= Heavy\_chain  
 XX Peptide 158..169  
 XX Msc-difference /label= Activation\_peptide  
 XX Msc-difference 305  
 XX Msc-difference /note= "Wild-type Ser substituted by Asn"  
 XX Msc-difference 307  
 XX /note= "Wild-type Glu substituted by Ser"  
 PD 25-APR-2002.  
 XX 15-OCT-2001; 2001WO-DK000679.  
 XX 18-OCT-2000; 2000DK-00001560.  
 XX 18-OCT-2000; 2000US-0242268P.  
 XX 21-JUN-2001; 2001DK-00000970.  
 XX 21-JUN-2001; 2001US-0300154P.  
 XX (MAXY-) MAXYGEN APPS.  
 XX (MAXY-) MAXYGEN HOLDINGS LTD.  
 PI Andersen KV, Pedersen AH, Freskgaard PO;  
 DR WPI; 2002-489875/52.  
 XX  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 PS Claim 9; Page; 92pp; English.  
 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr303Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life of the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections. Moreover, a  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC



CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9

XX Sequence 419 AA;

Query Match 99.7%; Score 2316; DB 5; Length 419;

Best Local Similarity 99.5%; Pred. No. 1e-142; Mismatches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSFLEELRHSLSRECEIEICDFEAKETIFQVNDTLAFMSKRVDDQCLVPLEHPCA 60  
 DB 1 ANSFLEELRHSLSRECEIEICDFEAKETIFQVNDTLAFMSKRVDDQCLVPLEHPCA 60  
 QY 61 SLCCGHGTCIDIGISFCDCRSRSGRRCQREVSFLNCSLDNGGCTHYCLEEYGMRRCSG 120  
 DB 61 SLCCGHGTCIDIGISFCDCRSRSGRRCQREVSFLNCSLDNGGCTHYCLEEYGMRRCSG 120  
 QY 121 APGYKLGDLLQCHPAVKEPCGRPWKREKRSHTLRDTEDEQVDPRLIDKMTREGD 180  
 DB 121 APGYKLGDLLQCHPAVKEPCGRPWKREKRSHTLRDTEDEQVDPRLIDKMTREGD 180  
 QY 181 SPQVVLDSKKKLACAVLHPSVLTFAHOMESKULVPLGTYLRRMEKWEIDDI 240  
 DB 181 SPQVVLDSKKKLACAVLHPSVLTFAHOMESKULVPLGTYLRRMEKWEIDDI 240  
 QY 241 KEVFVHNYSKSTTDNDIALHIAOPATLSOTIVPICLPDGSGLARELNQAGQETLVTSW 300  
 DB 241 KEVFVHNYSKSTTDNDIALHIAOPATLSOTIVPICLPDGSGLARELNQAGQETLVTSW 300  
 QY 301 GHYSSEKAKRRTFVNTIKIPEVHNESGVSNNVSENNLCAGILGRDACEGDS 360  
 DB 301 GHYSSEKAKRRTFVNTIKIPEVHNESGVSNNVSENNLCAGILGRDACEGDS 360  
 QY 361 GGPVVASFHGTWELVGLVSWBGGLNHYGVTKSRVYLDHGHINDKNAPOKSMAP 419  
 DB 361 GGPVVASFHGTWELVGLVSWBGGLNHYGVTKSRVYLDHGHINDKNAPOKSMAP 419

RESULT 50

AAU99095

AAU99095 standard; protein: 419 AA.

XX AC AAU99095;

XX DT 23-AUG-2002 (first entry)

XX DE Human Protein C zymogen protein mutant D214A.

XX XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.

XX XX Homo sapiens.

OS Synthetic.

XX FH Key Location/Qualifiers

FT Protein 1..155 /label= Light\_chain

FT Peptide 156..157 /label= Lys\_Arg\_dipeptide

FT Protein 158..419 /label= Heavy\_chain

FT Peptide 158..169 /label= Activation\_peptide

FT Misc-difference 214 /note= "Wild-type Asp substituted by Ala"

XX XX MO200232461-A2.

XX XX 25-APR-2002.

XX XX 15-OCT-2001; 2001WO-DK00679.

XX XX 18-OCT-2000; 2000DK-00001560.

XX XX 18-OCT-2000; 2000US-0242268P.

XX XX 21-JUN-2001; 2001DK-00000970.

XX XX 21-JUN-2001; 2001US-0300154P.

XX XX (MAXY-) MAXYGEN APS.

XX XX (MAXY-) MAXYGEN HOLDINGS LTD.

XX XX Andersen KV, Pedersen AH, Friesgaard PO;

XX XX WPI; 2002-489875/52.

XX XX Novel conjugate useful for treating or preventing septic shock, stroke

XX XX and myocardial infarction comprises non-polypeptide group covalently

XX XX attached to protein C polypeptide comprising an attachment group.

XX XX Example 5; Page; 92pp; English.

CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (p) where (p) is an amino acid with at least  
 CC 2% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln/  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe16Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life, reduced  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9

XX XX Sequence 419 AA;

Query Match 99.7%; Score 2316; DB 5; Length 419;

Best Local Similarity 99.8%; Pred. No. 1e-142; Mismatches 418; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSFLEELRHSLSRECEIEICDFEAKETIFQVNDTLAFMSKRVDDQCLVPLEHPCA 60  
 DB 1 ANSFLEELRHSLSRECEIEICDFEAKETIFQVNDTLAFMSKRVDDQCLVPLEHPCA 60

QY 61 SLCCGHCCTIDIGSFCDRCSGMEGRPCOREVSLFNCSLDNGGCTHYCLEEVGMRRGSC 120  
 DB 61 SLCCGHCCTIDIGSFCDRCSGMEGRPCOREVSLFNCSLDNGGCTHYCLEEVGMRRGSC 120  
 QY 121 APGYKLGDDLLQCHPAVYFPCGRPMKMEKRSKSLKRDTEDEQDVDPRLIDGKMTRRGD 180  
 DB 121 APGYKLGDDLLQCHPAVYFPCGRPMKMEKRSKSLKRDTEDEQDVDPRLIDGKMTRRGD 180  
 QY 181 SPMQVVLDSKKKLAACGAVLIHPSWVLTAAHCDMSKKLIVRLGEYDILRMKEWELDDI 240  
 DB 181 SPMQVVLDSKKKLAACGAVLIHPSWVLTAAHCDMSKKLIVRLGEYDILRMKEWELDDI 240  
 QY 241 KEVPHVNYSKSTTNDIALHLAOPATLSQTIYVPCLPDGLAERELNOAGQETLVYTW 300  
 DB 241 KEVPHVNYSKSTTNDIALHLAOPATLSQTIYVPCLPDGLAERELNOAGQETLVYTW 300  
 QY 301 GHSSREKAKENRRTFVLFNKIPVPHNECSEVSMNVSENNLCAGILGRDODACBGDS 360  
 DB 301 GHSSREKAKENRRTFVLFNKIPVPHNECSEVSMNVSENNLCAGILGRDODACBGDS 360  
 QY 361 GGPVVASFHGTFWFLVGLVSWGCGGLLHNYGVYTKVSRYLDMIGHIRDEKAPQKSWAP 419  
 DB 361 GGPVVASFHGTFWFLVGLVSWGCGGLLHNYGVYTKVSRYLDMIGHIRDEKAPQKSWAP 419

## RESULT 51

AAB36898  
 ID AAB36898 standard; protein; 419 AA.

AC AAB36898;

DT 26-FEB-2001 (first entry)

XX Human protein C derivative 5.

XX Protein C; human; vascular occlusive; burn; transplantation;

KM deep vein thrombosis; sickle cell; thalassemia; thrombotic disorders;

KM myocardial infarction; angina; stroke.

OS Homo sapiens.

XX MO20006754-A1.

XX 09-NOV-2000.

XX 13-APR-2000; 2000WO-US008722.

XX 30-APR-1999; 99US-0131801P.

XX (EHLI) LILLY & CO ETL.

XX Gerlitz BE, Jones BE;

XX WPI; 2001-007227/01.

XX N-PSDB; AAC83315.

XX Claim 6; Page 49-51; 57pp: English.

CC The present invention relates to a human protein C derivative. The  
 CC protein is useful for treating vascular occlusive disorders,  
 CC hypercoagulable states such as sepsis, disseminated intravascular  
 CC coagulation, purpura fulminans, major trauma, major surgery, burns, adult  
 CC respiratory distress syndrome, transplantation, deep vein thrombosis,  
 CC heparin-induced thrombocytopenia, sickle cell disease, thalassemia, viral  
 CC hemorrhagic fever, thrombotic thrombocytopenic purpura, and hemolytic  
 CC uremic syndrome, and also useful for treating thrombotic disorders and  
 CC acute coronary syndromes such as myocardial infarction, unstable angina,  
 CC and stroke. Protein C derivatives with amino acid substitutions result in  
 CC increased resistance to inactivation by serpins when compared to wild-

CC type activated human protein C. They also have longer half-lives in human  
 CC blood and hence require either less frequent administration and/or  
 CC smaller dosage than wild type human protein C for treating disorders  
 XX

XX Sequence 419 AA:

Query Match 99.6%; Score 2315; DB 4; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1.2e-142;  
 Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSFLEELRHSLSERECIEECDFEEAKEIFQNVDDTLAFMSKIVDGDCLVLPLEHPCA 60  
 DB 1 ANSFLEELRHSLSERECIEECDFEEAKEIFQNVDDTLAFMSKIVDGDCLVLPLEHPCA 60  
 QY 61 SLCCGHCCTIDIGSFCDRCSGMEGRPCOREVSLFNCSLDNGGCTHYCLEEVGMRRGSC 120  
 DB 61 SLCCGHCCTIDIGSFCDRCSGMEGRPCOREVSLFNCSLDNGGCTHYCLEEVGMRRGSC 120  
 QY 121 APGYKLGDDLLQCHPAVYFPCGRPMKMEKRSKSLKRDTEDEQDVDPRLIDGKMTRRGD 180  
 DB 121 APGYKLGDDLLQCHPAVYFPCGRPMKMEKRSKSLKRDTEDEQDVDPRLIDGKMTRRGD 180  
 QY 181 SPMQVVLDSKKKLAACGAVLIHPSWVLTAAHCDMSKKLIVRLGEYDILRMKEWELDDI 240  
 DB 181 SPMQVVLDSKKKLAACGAVLIHPSWVLTAAHCDMSKKLIVRLGEYDILRMKEWELDDI 240  
 QY 241 KEVPHVNYSKSTTNDIALHLAOPATLSQTIYVPCLPDGLAERELNOAGQETLVYTW 300  
 DB 241 KEVPHVNYSKSTTNDIALHLAOPATLSQTIYVPCLPDGLAERELNOAGQETLVYTW 300  
 QY 301 GHSSREKAKENRRTFVLFNKIPVPHNECSEVSMNVSENNLCAGILGRDODACBGDS 360  
 DB 301 GHSSREKAKENRRTFVLFNKIPVPHNECSEVSMNVSENNLCAGILGRDODACBGDS 360  
 QY 361 GGPVVASFHGTFWFLVGLVSWGCGGLLHNYGVYTKVSRYLDMIGHIRDEKAPQKSWAP 419  
 DB 361 GGPVVASFHGTFWFLVGLVSWGCGGLLHNYGVYTKVSRYLDMIGHIRDEKAPQKSWAP 419

## RESULT 52

AAU99008  
 ID AAU99008 standard; protein; 419 AA.

XX AAU99008;

XX 23-AUG-2002 (first entry)

XX Human protein C zymogen protein mutant S190N/K192T.

XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;

KM serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;

KM after venous thrombosis; disseminated intravascular coagulation; DIC;

KM sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;

KM bone marrow transplantation; major surgery; trauma; AIDS; coagulant;

XX adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.

XX Homo sapiens.

XX Synthetic.

XX Key

XX Protein

XX Peptide

XX Protein

XX Peptide

XX Misc-difference

XX Misc-difference

Location/Qualifiers  
 1..155  
 /label= Light\_chain

156..157  
 /label= Lys\_Arg\_dipeptide

158..419  
 /label= Heavy\_chain

158..169  
 /label= Activation\_peptide

190  
 /note= "Wild-type Ser substituted by Asn"

192  
 /note= "Wild-type Lys substituted by Thr"

EN WO200232461-A2.  
 XX 25-APR-2002.  
 XX 15-OCT-2001; 2001WO-DK000679.  
 XX 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 XX Andersen KV, Pedersen AH, Freskgaard PO;  
 PI WPI: 2002-489875/52.  
 DR Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 PS Claim 9; Page; 92pp; English.  
 XX The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln/  
 CC Ty302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe315Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life of the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections. Moreover, a  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the anti-inflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 XX Sequence 419 AA;  
 SQ  
 Query Match 99.6%; Score 2315; DB 5; Length 419;  
 Best local Similarity 99.5%; Pred. No. 1.2e-142;  
 Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Db 61 SLCCGHTCTIDIGTSPDCRSQWGRFCCQREVSTFLNCSLDNGGCTHYCTLEVGWRCSC 120  
 QY 121 APGYKLGDLLQCHPAVKEPCGRPWKMEKKRSHLKRTEQEDQVDPRLIDKRTRRGD 180  
 Db 121 APGYKLGDLLQCHPAVKEPCGRPWKMEKKRSHLKRTEQEDQVDPRLIDKRTRRGD 180  
 QY 181 SPQVVLIDSKKILAGANTLHPSVTLTAACHCDESKILVRLGEYLRWKEWELDLDI 240  
 Db 181 SPQVVLIDSKKILAGANTLHPSVTLTAACHCDESKILVRLGEYLRWKEWELDLDI 240  
 QY 241 KEVFEHPNYSSTTNDIALHLAQPATLSQTVPTCLPDSGLARELNAQGETLVTSW 300  
 Db 241 KEVFEHPNYSSTTNDIALHLAQPATLSQTVPTCLPDSGLARELNAQGETLVTSW 300  
 QY 301 GYHSREKAEKRNTEFLVNFIKIPVPHNECEVSNMVSNNMLCAGILDRDACEGDS 360  
 Db 301 GYHSREKAEKRNTEFLVNFIKIPVPHNECEVSNMVSNNMLCAGILDRDACEGDS 360  
 QY 361 GGPVVASFHGTWFLVGLVSWGCGGLLNQGVYTKVSRVLDWIGHGTRDKEAPQKSNAP 419  
 Db 361 GGPVVASFHGTWFLVGLVSWGCGGLLNQGVYTKVSRVLDWIGHGTRDKEAPQKSNAP 419

RESULT 53  
 AAU99049  
 ID AAU99049 standard; protein: 419 AA.  
 XX AC AAU99049;  
 DT 23-AUG-2002 (first entry)  
 DE Human Protein C zymogen protein mutant S304N/R306S.  
 XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KM serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KM after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KM sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KM bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KM adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX Homo sapiens.  
 OS Synthetic.  
 XX Key Location/Qualifiers  
 FH Protein 1..155  
 FT /label= Light\_chain  
 FT Peptide 156..157  
 FT /label= Lys\_Arg\_dipeptide  
 FT Protein 158..419  
 FT /label= Heavy\_chain  
 FT Peptide 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 304  
 FT /note= "wild-type Ser substituted by Asn"  
 FT FT Misc-difference 306  
 FT /note= "wild-type Arg substituted by Ser"  
 XX WO200232461-A2.  
 XX 25-APR-2002.  
 XX 15-OCT-2001; 2001WO-DK000679.  
 XX 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 XX Andersen KV, Pedersen AH, Freskgaard PO;

XX MPI: 2002-489875/52.  
 XX Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 PS Claim 9; Page; 92pp; English.

XX The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe315Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (W2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9

XX Sequence 419 AA:

Query Match 99.6%; Score 2315; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1,2e-142;  
 Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSPLEELRHSSLERECIEEICDFEAKKEIFQNVDTLTAFMSKRVDDGCVLPLEHPCA 60  
 DB 1 ANSPLEELRHSSLERECIEEICDFEAKKEIFQNVDTLTAFMSKRVDDGCVLPLEHPCA 60  
 QY 61 STCCGHCCTCTDGTGSCDCRSGWEGFQCFQVRSFLNCSLNDGSCCHYCLAEVCMRRSC 120  
 DB 61 STCCGHCCTCTDGTGSCDCRSGWEGFQCFQVRSFLNCSLNDGSCCHYCLAEVCMRRSC 120  
 QY 121 APGYLGGDILLQCHPAVKEPCGRPMKMEKKSHLKRDTEQDEQVDPRLIDGKTRRGD 180  
 DB 121 APGYLGGDILLQCHPAVKEPCGRPMKMEKKSHLKRDTEQDEQVDPRLIDGKTRRGD 180  
 QY 181 SPWQVVLDSKKKLAGAVLTIPESVTLTAHCHDSKGLVRLCEFDLRRMKKMLDDI 240  
 DB 181 SPWQVVLDSKKKLAGAVLTIPESVTLTAHCHDSKGLVRLCEFDLRRMKKMLDDI 240  
 QY 241 KEVFNHPSKSTTDDIALHLAQPATTSQTTVPICPDGSAERELNQAQCELTLYGW 300  
 DB 241 KEVFNHPSKSTTDDIALHLAQPATTSQTTVPICPDGSAERELNQAQCELTLYGW 300

QY 301 GYHSSREKAKRRTFVLIPIVPHNECEWMSNMVSENNLCAGILIGRQDACEGS 360  
 DB 301 GYHSSREKAKRRTFVLIPIVPHNECEWMSNMVSENNLCAGILIGRQDACEGS 360  
 QY 361 GGPVVASFTQWFLVGLVSWGEGCGLLNNYGYTVKSRIDMTLHGHIRDKAPQKSNAP 419  
 DB 361 GGPVVASFTQWFLVGLVSWGEGCGLLNNYGYTVKSRIDMTLHGHIRDKAPQKSNAP 419

RESULT 54

AAU99072  
 ID AAU99072 standard; protein; 419 AA.

AAU99072;

23-AUG-2002 (first entry)

Human Protein C zymogen protein mutant S336N/M338P.

Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;

serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;

after venous thrombosis; disseminated intravascular coagulation; DIC;

sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;

bone marrow transplantation; major surgery; trauma; ARDS; coagulant;

adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.

Homo sapiens.

Synthetic.

Key

Protein

Peptide

Protein

Peptide

Misc-difference

Misc-difference

Misc-difference

Misc-difference

Misc-difference

Misc-difference

Misc-difference

Misc-difference

Misc-difference

Misc-difference

Misc-difference

Misc-difference

Misc-difference

Misc-difference

Misc-difference

Misc-difference

Misc-difference

QY 1 ANSPLEELRHSSLERECIEEICDFEAKKEIFQNVDTLTAFMSKRVDDGCVLPLEHPCA 60  
 DB 1 ANSPLEELRHSSLERECIEEICDFEAKKEIFQNVDTLTAFMSKRVDDGCVLPLEHPCA 60  
 QY 61 STCCGHCCTCTDGTGSCDCRSGWEGFQCFQVRSFLNCSLNDGSCCHYCLAEVCMRRSC 120  
 DB 61 STCCGHCCTCTDGTGSCDCRSGWEGFQCFQVRSFLNCSLNDGSCCHYCLAEVCMRRSC 120  
 QY 121 APGYLGGDILLQCHPAVKEPCGRPMKMEKKSHLKRDTEQDEQVDPRLIDGKTRRGD 180  
 DB 121 APGYLGGDILLQCHPAVKEPCGRPMKMEKKSHLKRDTEQDEQVDPRLIDGKTRRGD 180  
 QY 181 SPWQVVLDSKKKLAGAVLTIPESVTLTAHCHDSKGLVRLCEFDLRRMKKMLDDI 240  
 DB 181 SPWQVVLDSKKKLAGAVLTIPESVTLTAHCHDSKGLVRLCEFDLRRMKKMLDDI 240  
 QY 241 KEVFNHPSKSTTDDIALHLAQPATTSQTTVPICPDGSAERELNQAQCELTLYGW 300  
 DB 241 KEVFNHPSKSTTDDIALHLAQPATTSQTTVPICPDGSAERELNQAQCELTLYGW 300

CC site). Also included are (1) a variant (IV) of (III) comprising a  
CC substitution in a position (P) where (P) is an amino acid with at least  
CC 2% of its side group exposed to the surface, with the proviso that the  
CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln/  
CC Tyr325Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
CC comprising (V) or (VI); (5) increasing (W2) the functional in vivo half-  
CC life or the serum half-life of a parent protein C polypeptide. The  
CC conjugates, variants and protein C proteins are useful as medicaments,  
CC and in the manufacture of medicaments for the treatment (and  
CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
CC transplantation, burns, pregnancy, major surgery/trauma or adult  
CC respiratory distress syndrome (ARDS). The variant protein C has an  
CC increased resistance to activation by e.g. human plasma and alpha-1  
CC antitrypsin. The conjugates have an increased in vivo half-life,  
CC increased serum half-life, increased resistance to inhibitors, reduced  
CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
CC The conjugate offers a number of advantages over the currently available  
CC APC products, including longer duration between injections,  
CC administration of less protein, and fewer side effects. Moreover, a  
CC reduced anticoagulant activity is beneficial to reduce the risk of  
CC bleeding while maintaining the antiinflammatory activity of APC  
CC (activated protein C) conjugates. This must be especially important when  
CC the conjugate has an extended plasma life. The gene for protein C is  
CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
CC protein C variant of the invention. Note: The present sequence is not  
CC shown in the specification but was created by the indexer using the  
CC protein C sequence appearing as AAU99002 and the information in claim 9  
XX  
XX Sequence 419 AA;

Query Match 99.6%; Score 2315; DB 5; Length 419;  
Best Local Similarity 99.5%; Pred. No. 1,2e-142;  
Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSPLELRHSLSRECEIEICDFEAKERFQVNDVDTLAFMSKVDGQCLVLPLEHCA 60  
DB 1 ANSPLELRHSLSRECEIEICDFEAKERFQVNDVDTLAFMSKVDGQCLVLPLEHCA 60  
QY 61 SLCCGHTGTCIDIGISFCDSRSGWGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRCSC 120  
DB 61 SLCCGHTGTCIDIGISFCDSRSGWGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRCSC 120  
QY 121 AFGYKGDLLQCHPAKVPFCGPMKMEKRSHTLRDDEDEQVPRILIDKMTRRD 180  
DB 121 AFGYKGDLLQCHPAKVPFCGPMKMEKRSHTLRDDEDEQVPRILIDKMTRRD 180  
QY 181 SPQVVLDSKKKLACAVLTHPSVWLTFAHOMESKLLVLRGEYDRMEKVELDDI 240  
DB 181 SPQVVLDSKKKLACAVLTHPSVWLTFAHOMESKLLVLRGEYDRMEKVELDDI 240  
QY 241 KEVFVHPNYSKSTDDNDIALHLAQPATLSQTIYPICLPDSGLARELNQAGEVLTVM 300  
DB 241 KEVFVHPNYSKSTDDNDIALHLAQPATLSQTIYPICLPDSGLARELNQAGEVLTVM 300  
QY 301 GYSSSEKAKRNRTPLNFKTPVYPHNECSFMSNMVSENNLCAGLIGRQDAEGGS 360  
DB 301 GYSSSEKAKRNRTPLNFKTPVYPHNECSFMSNMVSENNLCAGLIGRQDAEGGS 360  
QY 361 GGPVVASFGTWFVLGVLSWGECCGLLNHYGYTKRSYLDWIHGHIHDEKAEQKSMAP 419  
DB 361 GGPVVASFGTWFVLGVLSWGECCGLLNHYGYTKRSYLDWIHGHIHDEKAEQKSMAP 419

RESULT 55  
AAU99050  
ID AAU99050 standard; protein: 419 AA.  
XX  
AC AAU99050;  
XX

DT 23-AUG-2002 (first entry)  
XX  
DE Human Protein C zymogen protein mutant S304N/R306T.  
XX  
KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
KW bone marrow transplantation; major surgery; trauma; ARDS; coagulancy;  
KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
XX  
OS Homo sapiens.  
OS Synthetic.  
XX  
PH Key  
FT 1.155 Location/Qualifiers  
FT 156.157 /label=light\_chain  
FT 156.157 /label=lys\_arg\_dipeptide  
FT 158.419 /label=heavy\_chain  
FT 158.169 /label=activation\_peptide  
FT Peptide  
FT Misc-difference 304 /note= "Wild-type Ser substituted by Asn"  
FT Misc-difference 306 /note= "Wild-type Arg substituted by Thr"  
PN WO200232461-A2.  
XX  
PD 25-APR-2002.  
XX  
PF 15-OCT-2001; 2001WO-DK00679.  
XX  
PR 18-OCT-2000; 2000DK-00001560.  
PR 18-OCT-2000; 2000US-0242268P.  
PR 21-JUN-2001; 2001DK-00000970.  
PR 21-JUN-2001; 2001US-0300154P.  
XX  
PA (MAXY-) MAXYGEN APS.  
PA (MAXY-) MAXYGEN HOLDINGS LTD.  
PI Andersen KV, Pedersen AH, Friesgaard PO;  
XX WPI; 2002-469875/52.  
XX  
PT Novel conjugate useful for treating or preventing septic shock, stroke  
PT and myocardial infarction, comprises non-polypeptide group covalently  
PT attached to protein C polypeptide comprising an attachment group.  
XX  
PS Claim 9; Page: 92pp; English.  
XX  
CC The invention relates to a conjugate (I) comprising at least one non-  
CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
CC a protein C polypeptide comprising an amino acid sequence which differs  
CC from that of a parent protein C polypeptide (III) in at least one  
CC introduced and/or at least one removed amino acid residue comprising an  
CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
CC site). Also included are (1) a variant (IV) of (III) comprising a  
CC substitution in a position (P) where (P) is an amino acid with at least  
CC 2% of its side group exposed to the surface, with the proviso that the  
CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln/  
CC Tyr325Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
CC comprising (V) or (VI); (5) increasing (W2) the functional in vivo half-  
CC life or the serum half-life of a parent protein C polypeptide. The  
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CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
CC transplantation, burns, pregnancy, major surgery/trauma or adult

CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU9902 and the information in claim 9  
 XX

Sequence 419 AA:

Query Match 99.6%; Score 2315; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1,2e-142;  
 Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSFLETHSSLEKCEIEICDPEAKETIFQNVDTLAFMSKRVDPQCLVLEPQCA 60  
 Db 1 ANSTLETHSSLEKCEIEICDPEAKETIFQNVDTLAFMSKRVDPQCLVLEPQCA 60  
 QY 61 SLCCGHTCTIDIGSFSQDCRSQWEGRFQREVSFLNCSLDNGGCTHYCLEBVGWRRCSQ 120  
 Db 61 SLCCGHTCTIDIGSFSQDCRSQWEGRFQREVSFLNCSLDNGGCTHYCLEBVGWRRCSQ 120  
 QY 121 APGYKLGDDLLQCHPAVRFPGRPWAKMEKXSHKXDTDEODQDVPDLIDGMQTRRGD 180  
 Db 121 APGYKLGDDLLQCHPAVRFPGRPWAKMEKXSHKXDTDEODQDVPDLIDGMQTRRGD 180  
 QY 122 APGYKLGDDLLQCHPAVRFPGRPWAKMEKXSHKXDTDEODQDVPDLIDGMQTRRGD 180  
 Db 122 APGYKLGDDLLQCHPAVRFPGRPWAKMEKXSHKXDTDEODQDVPDLIDGMQTRRGD 180  
 QY 181 SPMQVLLDSKKLACGAVLHPSPVLTAAHQMDESKKLIVLGEYDLRMEKELDDI 240  
 Db 181 SPMQVLLDSKKLACGAVLHPSPVLTAAHQMDESKKLIVLGEYDLRMEKELDDI 240  
 QY 241 KEVFNHNYSKSTTNDIALHLAQPATLSQTTVPICLPDSGLAEELNQAGETLYTGW 300  
 Db 241 KEVFNHNYSKSTTNDIALHLAQPATLSQTTVPICLPDSGLAEELNQAGETLYTGW 300  
 QY 301 GHSSREKAKRRTFTVNLFIKIPVPHNCEWNNVSNM/CAGIIGDRQACGDS 360  
 Db 301 GHSSREKAKRRTFTVNLFIKIPVPHNCEWNNVSNM/CAGIIGDRQACGDS 360  
 QY 361 GGPWASFHGTWFLVGLVSMGCGGLHNYGYTVKSYRYLDMIGHIRDKAPQSNAP 419  
 Db 361 GGPWASFHGTWFLVGLVSMGCGGLHNYGYTVKSYRYLDMIGHIRDKAPQSNAP 419

RESULT 56  
 AAU99020

ID AAU99020 standard; protein; 419 AA.

AC AAU99020;

DT 23-AUG-2002 (first entry)

DE Human Protein C zymogen protein mutant S216N/K218T.

KM Human, Protein C, N-glycosylation; APC: activated protein C; zymogen;  
 KM serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KM after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KM septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KM bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KM adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.

OS Homo sapiens.

OS Synthetic.

XX Location/Qualifiers

FT Protein 1..155  
 FT /label= Light\_chain  
 FT Peptide 156..157  
 FT /label= Lys\_Arg\_dipeptide  
 FT Protein 158..419  
 FT /label= Heavy\_chain  
 FT Peptide 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 216  
 FT /note= "Wild-type Ser substituted by Asn"  
 FT Misc-difference 218  
 FT /note= "Wild-type Lys substituted by Thr"  
 XX W0200232461-A2.  
 XX 25-APR-2002.  
 XX 15-OCT-2001; 2001WO-DK00679.  
 XX 18-OCT-2000; 2000DK-00001560.  
 XX 18-OCT-2000; 2000US-0242268P.  
 XX 21-JUN-2001; 2001DK-0000970.  
 XX 21-JUN-2001; 2001US-0300154P.  
 XX (MAXY-) MAXYGEN APS.  
 XX (MAXY-) MAXYGEN HOLDINGS LTD.  
 XX Andersen KV, Pedersen AH, Friesgaard PO;  
 DR WPI; 2002-489875/52.  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 PS Claim 9; Page; 92pp; English.  
 XX  
 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Ty303Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe16Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln, (2) a nucleotide sequence (V) encoding  
 CC (IV), (3) an expression vector (VI) comprising (V), (4) a host cell (VII)  
 CC comprising (V) or (VI), (5) increasing (M2) the functional in vivo half-  
 CC life of the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the

CC protein C sequence appearing as AAU99002 and the information in claim 9  
XX  
SQ Sequence 419 AA;

Query Match 99.6%; Score 2315; DB 5; Length 419;  
Best Local Similarity 99.5%; Pred. No. 1.2e-142;  
Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSFLEIRHSSLERECIEICDPEEAKELFQVNDTLAFWSKIVDDQCLVPLEHPCA 60  
DB 1 ANSFLEIRHSSLERECIEICDPEEAKELFQVNDTLAFWSKIVDDQCLVPLEHPCA 60  
QY 61 SLCCGHTCIDIGISGSPDCRSRSGWEGRFQREVSLNCSLNDGCTHYCLEEYGRRCSC 120  
DB 61 SLCCGHTCIDIGISGSPDCRSRSGWEGRFQREVSLNCSLNDGCTHYCLEEYGRRCSC 120  
QY 121 APGYKLGDDLLQCHPAVKPCGRPKMEKKRSHLRDTEDEQDVDPRLIDGKMTRRGD 180  
DB 121 APGYKLGDDLLQCHPAVKPCGRPKMEKKRSHLRDTEDEQDVDPRLIDGKMTRRGD 180  
QY 181 SPWQVLLDSKKKACAGVLIHPSWVLTAAHCHDESKILVLAEPYDLRRWEKELDDI 240  
DB 181 SPWQVLLDSKKKACAGVLIHPSWVLTAAHCHDESKILVLAEPYDLRRWEKELDDI 240  
QY 241 KEVYHPNYSKSTTNDIALHAPATLSQTIYICLPDSEARELNAQOGLTYLWGM 300  
DB 241 KEVYHPNYSKSTTNDIALHAPATLSQTIYICLPDSEARELNAQOGLTYLWGM 300  
QY 301 GHYSREKAKRNTFVLANFIKIPVPHNECSVMNVSNNLCAGILDRDACEGDS 360  
DB 301 GHYSREKAKRNTFVLANFIKIPVPHNECSVMNVSNNLCAGILDRDACEGDS 360  
QY 361 GGPWVASPHGTWFLVGVSWGSCGLNHYVTKVSRVLDWIGHSHRDEAPQKSNAP 419  
DB 361 GGPWVASPHGTWFLVGVSWGSCGLNHYVTKVSRVLDWIGHSHRDEAPQKSNAP 419

RESULT 57  
AAU99058  
ID AAU99058 standard; protein; 419 AA.  
XX  
AC AAU99058;  
XX  
DT 23-AUG-2002 (first entry)  
DE Human Protein C zymogen protein mutant K308N/A310T.  
XX  
KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
XX  
OS Homo sapiens.  
OS Synthetic.  
XX  
FH Key Location/Qualifiers  
FT Protein 1..155  
FT Peptide /label= Light\_chain  
FT Peptide /label= Lys\_Arg\_dipeptide  
FT Protein 156..157  
FT Peptide /label= Heavy\_chain  
FT Peptide /label= Activation\_peptide  
FT Misc-difference 308  
FT Misc-difference 310 /note= "Wild-type Lys substituted by Asn"  
FT Misc-difference 310 /note= "Wild-type Ala substituted by Thr"  
XX  
XX W0200232461-A2.

PD 25-APR-2002.  
XX  
XX 15-OCT-2001; 2001WO-DK000679.  
PF  
XX 18-OCT-2000; 2000DK-00001560.  
ER  
XX 18-OCT-2000; 2000US-0242268P.  
PR  
XX 21-JUN-2001; 2001DK-00000970.  
PR  
XX 21-JUN-2001; 2001US-0300154P.  
XX  
XX (MAXY-) MAXYGEN APS.  
XX (MAXY-) MAXYGEN HOLDINGS LTD.  
XX  
XX Andersen KV, Pedersen AH, Freshgaard PO;  
XX WPI; 2002-469875/52.  
XX  
XX Novel conjugate useful for treating or preventing septic shock, stroke  
XX PT and myocardial infarction, comprises non-polypeptide group covalently  
XX PT attached to protein C polypeptide comprising an attachment group.  
XX  
XX Claim 9; Page; 92pp; English.  
XX  
XX The invention relates to a conjugate (I) comprising at least one non-  
CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
CC a protein C polypeptide comprising an amino acid sequence which differs  
CC from that of a parent protein C polypeptide (III) in at least one  
CC introduced and/or at least one removed amino acid residue comprising an  
CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
CC site). Also included are (1) a variant (IV) of (III) comprising a  
CC substitution in a position (P) where (P) is an amino acid with at least  
CC 25% of its side group exposed to the surface, with the proviso that the  
CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln/Thr/  
CC Tyr102Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe165Ser/Ala/Thr/  
CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
CC life or the serum half-life of a parent protein C polypeptide. The  
CC conjugates, variants and protein C proteins are useful as medicaments,  
CC and in the manufacture of medicaments for the treatment (and  
CC diagnosis/prevention) of stroke, myocardial infarction (DIC), sepsis, septic  
CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
CC transplantation, burns, pregnancy, major surgery/trauma or adult  
CC respiratory distress syndrome (ARDS). The variant protein C has an  
CC increased resistance to activation by e.g. human plasma and alpha-1  
CC antitrypsin. The conjugates have an increased in vivo half-life,  
CC increased serum half-life, increased resistance to inhibitors, reduced  
CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
CC The conjugate offers a number of advantages over the currently available  
CC APC products, including longer duration between injections, Moreover, a  
CC administration of less protein, and fewer side effects. Moreover, a  
CC reduced anticoagulant activity is beneficial to reduce the risk of  
CC bleeding while maintaining the antiinflammatory activity of APC  
CC (activated protein C) conjugates. This must be especially important when  
CC the conjugate has an extended plasma life. The gene for protein C is  
CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
CC protein C variant of the invention. Note: The present sequence is not  
CC shown in the specification but was created by the indexer using the  
CC protein C sequence appearing as AAU99002 and the information in claim 9  
XX  
SQ Sequence 419 AA;

Query Match 99.6%; Score 2315; DB 5; Length 419;  
Best Local Similarity 99.5%; Pred. No. 1.2e-142;  
Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 ANSFLEIRHSSLERECIEICDPEEAKELFQVNDTLAFWSKIVDDQCLVPLEHPCA 60  
DB 1 ANSFLEIRHSSLERECIEICDPEEAKELFQVNDTLAFWSKIVDDQCLVPLEHPCA 60  
QY 61 SLCCGHTCIDIGISGSPDCRSRSGWEGRFQREVSLNCSLNDGCTHYCLEEYGRRCSC 120  
DB 61 SLCCGHTCIDIGISGSPDCRSRSGWEGRFQREVSLNCSLNDGCTHYCLEEYGRRCSC 120



QY 121 APGYKGGDILQCHPAVYPCGRPMKMEKSKSHKRTDEDEQVDYDRLDGMATRRG 180  
 DB 121 APGYKGGDILQCHPAVYPCGRPMKMEKSKSHKRTDEDEQVDYDRLDGMATRRG 180  
 QY 181 SPWQVVLIDSKKKLACGAVLIHPSWVLTAAHOMDESKKLLVRLGEYDLRRMEKELDLDI 240  
 DB 181 SPWQVVLIDSKKKLACGAVLIHPSWVLTAAHOMDESKKLLVRLGEYDLRRMEKELDLDI 240  
 QY 241 KEVFPVHNYSKSTTNDIALHLAQPATLSQTIIVICLPDSGLAEELINQAGQETLVYGM 300  
 DB 241 KEVFPVHNYSKSTTNDIALHLAQPATLSQTIIVICLPDSGLAEELINQAGQETLVYGM 300  
 QY 301 GYHSREKEAKRRTFVNFIKIPVPHNECSWMSNMVSENNLCAGILGDRQACGDS 360  
 DB 301 GYHSREKEAKRRTFVNFIKIPVPHNECSWMSNMVSENNLCAGILGDRQACGDS 360  
 QY 361 GGPWVASFHGTWFLVGLVSMGCGGLAHNYGVYTKVSRYLDMIGHIRDKKAPQKSWAP 419  
 DB 361 GGPWVASFHGTWFLVGLVSMGCGGLAHNYGVYTKVSRYLDMIGHIRDKKAPQKSWAP 419

## RESULT 58

AAU99071

AAU99071 standard; protein; 419 AA.

AAU99071;

23-AUG-2002 (first entry)

Human Protein C zymogen protein mutant S336N/M338S.

XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 XX serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 XX after venous thrombosis; disseminated intravascular coagulation; DIC;  
 XX sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 XX bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 XX adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 XX Synthetic.

XX Key Location/Qualifiers  
 XX Protein 1..155  
 XX Peptide /label= Light\_chain  
 XX Peptide 156..157  
 XX Protein /label= Lys\_Arg\_dipeptide  
 XX Peptide 158..419  
 XX Peptide /label= Heavy\_chain  
 XX Peptide 158..169  
 XX /label= Activation\_peptide  
 XX Misc-difference 336  
 XX /note= "Wild-type Ser substituted by Asn"  
 XX Misc-difference 338  
 XX /note= "Wild-type Met substituted by Ser"

W0200232461-A2.

25-APR-2002.

15-OCT-2001; 2001WO-DK00679.

18-OCT-2000; 2000DK-00001560.

18-OCT-2000; 2000US-0242268P.

21-JUN-2001; 2001DK-00000970.

21-JUN-2001; 2001US-03000154P.

(MAXY-) MAXYGEN APS.

(MAXY-) MAXYGEN HOLDINGS LTD.

Andersen KV, Pedersen AH, Freekgaard PO;

WPI; 2002-489875/52.

XX Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 PS Claim 9; Page; 92pp; English.

The invention relates to a conjugate (I) comprising at least one non-polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to a protein C polypeptide comprising an amino acid sequence which differs from that of a parent protein C polypeptide (III) in at least one attachment group for the non-polypeptide group (e.g. an N-glycosylation site). Also included are (1) a variant (IV) of (III) comprising a substitution in a position (P) where (P) is an amino acid with at least 25% of its side group exposed to the surface, with the proviso that the substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or His303Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe313Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII) comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-life or the serum half-life of a parent protein C polypeptide. The conjugates, variants and protein C proteins are useful as medicaments, and in the manufacture of medicaments for the treatment (and diagnosis/prevention) of stroke, myocardial infarction, after venous thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow transplantation, burns, pregnancy, major surgery/trauma or adult respiratory distress syndrome (ARDS). The variant protein C has an increased resistance to activation by e.g. human plasma and alpha-1 antitrypsin. The conjugates have an increased in vivo half-life, increased serum half-life, increased resistance to inhibitors, reduced renal clearance, reduced immunogenicity and/or increased bioavailability. The conjugate offers a number of advantages over the currently available APC products, including longer duration between infusions, administration of less protein, and fewer side effects. Moreover, a reduced anticoagulant activity is beneficial to reduce the risk of bleeding while maintaining the antiinflammatory activity of APC (activated protein C) conjugates. This must be especially important when the conjugate has an extended plasma life. The gene for protein C is located on chromosome 2q13-q14. The present sequence represents a zymogen protein C variant of the invention. Note: The present sequence is not shown in the specification but was created by the indexer using the protein C sequence appearing as AAU99002 and the information in claim 9

Sequence 419 AA;

Query Match 99.6%; Score 2315; DB 5; Length 419;

Best local Similarity 99.5%; Pred. No. 1.2e-142; Matches 417; Conservativity 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSFLEELHSSLEKECEIEICDFEAKKIFQNVDDTLAFWSKHYVDGQCLVLEHPCA 60  
 DB 1 ANSFLEELHSSLEKECEIEICDFEAKKIFQNVDDTLAFWSKHYVDGQCLVLEHPCA 60  
 QY 61 SLCCGAGTCIDIGISFSCDCRSGBEGRFCQREVSFLNCSLDNGCCTHYCLFEVWRRCCG 120  
 DB 61 SLCCGAGTCIDIGISFSCDCRSGBEGRFCQREVSFLNCSLDNGCCTHYCLFEVWRRCCG 120  
 QY 121 APGYKGGDILQCHPAVYPCGRPMKMEKSKSHKRTDEDEQVDYDRLDGMATRRG 180  
 DB 121 APGYKGGDILQCHPAVYPCGRPMKMEKSKSHKRTDEDEQVDYDRLDGMATRRG 180  
 QY 181 SPWQVVLIDSKKKLACGAVLIHPSWVLTAAHOMDESKKLLVRLGEYDLRRMEKELDLDI 240  
 DB 181 SPWQVVLIDSKKKLACGAVLIHPSWVLTAAHOMDESKKLLVRLGEYDLRRMEKELDLDI 240  
 QY 241 KEVFPVHNYSKSTTNDIALHLAQPATLSQTIIVICLPDSGLAEELINQAGQETLVYGM 300  
 DB 241 KEVFPVHNYSKSTTNDIALHLAQPATLSQTIIVICLPDSGLAEELINQAGQETLVYGM 300  
 QY 301 GYHSREKEAKRRTFVNFIKIPVPHNECSWMSNMVSENNLCAGILGDRQACGDS 360  
 DB 301 GYHSREKEAKRRTFVNFIKIPVPHNECSWMSNMVSENNLCAGILGDRQACGDS 360



DB 301 GYHSSREKAKRNTFVNFIFIKIPVPHNECSEVMNNSVENMLCAGILGRDACEGDS 360  
QY 361 GGPWVAFPHGTWFLVGLVSMGEGCGLLHNYGYTVKSRITDWHIGHIRDEKAPQKSNAP 419  
DB 361 GGPWVAFPHGTWFLVGLVSMGEGCGLLHNYGYTVKSRITDWHIGHIRDEKAPQKSNAP 419

RESULT 59  
AAU99014  
ID AAU99014 standard; protein; 419 AA.  
XX AAU99014;  
XX  
DT 23-AUG-2002 (first entry)  
XX  
XX Human Protein C zymogen protein mutant K193N/A195T.  
XX  
XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
XX serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
XX after venous thrombosis; disseminated intravascular coagulation; DIC;  
XX sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
XX bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
XX adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
XX  
OS Homo sapiens.  
XX  
XX Synthetic.  
FH Key  
FT Protein  
FT Peptide  
FT Peptide  
FT Protein  
FT Protein  
FT Peptide  
FT  
FT Misc-difference 193  
FT Misc-difference 195  
FT  
XX  
XX WO20022461-A2.  
XX  
XX 25-APR-2002.  
XX  
XX 15-OCT-2001; 2001MO-DK000679.  
XX  
XX 18-OCT-2000; 2000DK-00001560.  
XX 18-OCT-2000; 2000DS-0242268P.  
XX 21-JUN-2001; 2001DK-00000970.  
XX 21-JUN-2001; 2001US-0300154P.  
XX  
XX (MAXY-) MAXYGEN ABS.  
XX (MAXY-) MAXYGEN HOLDINGS LTD.  
XX  
XX Andersen KV, Pedersen AH, Friesgaard PO;  
XX  
XX WPI; 2002-489875/52.  
XX  
XX  
XX Novel conjugate useful for treating or preventing septic shock, stroke  
XX and myocardial infarction, comprises non-polypeptide group covalently  
XX attached to protein C polypeptide comprising an attachment group.  
XX  
XX  
XX Claim 9; Page; 92pp; English.

CC The invention relates to a conjugate (I) comprising at least one non-  
CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
CC a protein C polypeptide comprising an amino acid sequence which differs  
CC from that of a parent protein C polypeptide (III) in at least one  
CC introduced and/or at least one removed amino acid residue comprising an  
CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
CC site). Also included are (I) a variant (IV) of (III) comprising a  
CC substitution in a position (P) where (P) is an amino acid with at least

CC 25% of its side group exposed to the surface, with the proviso that the  
CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
CC Tyr202Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
CC comprising (V) or (VI); (5) increasing (W2) the functional in vivo half-  
CC life or the serum half-life of a parent protein C polypeptide. The  
CC conjugates, variants and protein C proteins are useful as medicaments,  
CC and in the manufacture of medicaments for the treatment (and  
CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
CC transplantation, burns, pregnancy, major surgery/trauma or adult  
CC respiratory distress syndrome (ARDS). The variant protein C has an  
CC increased resistance to activation by e.g. human plasma and alpha-1  
CC antitrypsin. The conjugates have an increased in vivo half-life,  
CC increased serum half-life, increased resistance to inhibitors, reduced  
CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
CC The conjugate offers a number of advantages over the currently available  
CC APC products, including longer duration between injections,  
CC administration of less protein, and fewer side effects. Moreover, a  
CC reduced anticoagulant activity is beneficial to reduce the risk of  
CC bleeding while maintaining the antiinflammatory activity of APC  
CC (activated protein C) conjugates. This must be especially important when  
CC the conjugate has an extended plasma life. The gene for protein C is  
CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
CC protein C variant of the invention. Note: The present sequence is not  
CC shown in the specification but was created by the indexer using the  
CC protein C sequence appearing as AAU99002 and the information in claim 9

XX  
XX Sequence 419 AA;  
SQ  
Query Match 99.6%; Score 2315; DB 5; Length 419;  
Best Local Similarity 99.5%; Pred. No. 1.2e-142;  
Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 ANSFLELRHSSLEKCEIEICDPEBAKEIFONDITLAWSHKVDGQCVLLEHPCA 60  
DB 1 ANSFLELRHSSLEKCEIEICDPEBAKEIFONDITLAWSHKVDGQCVLLEHPCA 60  
QY 61 SLCCGHTCIDIGSFSDCRSGBEGRFCORFVSFLNCSLDNGCHYCLBEVGRRCSC 120  
DB 61 SLCCGHTCIDIGSFSDCRSGBEGRFCORFVSFLNCSLDNGCHYCLBEVGRRCSC 120  
QY 121 APGYKLGDDILQCHPAVPEPCGRPWKMEKRSKSLKEDTEDQEDYDPRLLDGKQTRRG 180  
DB 121 APGYKLGDDILQCHPAVPEPCGRPWKMEKRSKSLKEDTEDQEDYDPRLLDGKQTRRG 180  
QY 181 SPWQVVLDSKKKLAAGAVLIHPSWVLTAAQMDSESKLLVRGEVDLRREKKELDLDT 240  
DB 181 SPWQVVLDSKKKLAAGAVLIHPSWVLTAAQMDSESKLLVRGEVDLRREKKELDLDT 240  
QY 241 KEVFNHNYSKSTTNDIALHLAOPATLSOTIYVICLPDGLAEELNQAQOETLVGM 300  
DB 241 KEVFNHNYSKSTTNDIALHLAOPATLSOTIYVICLPDGLAEELNQAQOETLVGM 300  
QY 301 GYHSSREKAKRNTFVNFIFIKIPVPHNECSEVMNNSVENMLCAGILGRDACEGDS 360  
DB 301 GYHSSREKAKRNTFVNFIFIKIPVPHNECSEVMNNSVENMLCAGILGRDACEGDS 360  
QY 361 GGPWVAFPHGTWFLVGLVSMGEGCGLLHNYGYTVKSRITDWHIGHIRDEKAPQKSNAP 419  
DB 361 GGPWVAFPHGTWFLVGLVSMGEGCGLLHNYGYTVKSRITDWHIGHIRDEKAPQKSNAP 419

RESULT 60  
AAU99045  
ID AAU99045 standard; protein; 419 AA.  
XX AAU99045;  
XX  
DT 23-AUG-2002 (first entry)  
XX

DE Human Protein C zymogen protein mutant Y302N.  
 XX  
 XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KM serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KM after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KM sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KM bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KM adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 XX Key  
 XX Protein  
 XX Peptide  
 XX Peptide  
 XX Peptide  
 XX Peptide  
 XX Peptide  
 XX Misc-difference  
 XX /note= "Wild-type Tyr substituted by Asn"  
 XX  
 XX WO200232461-A2.  
 XX 25-APR-2002.  
 XX 15-OCT-2001; 2001WO-DK000679.  
 XX 18-OCT-2000; 2000DK-00001560.  
 XX 18-OCT-2000; 2000US-0242268P.  
 XX 21-JUN-2001; 2001DK-00000970.  
 XX 21-JUN-2001; 2001US-0300154P.  
 XX  
 XX (MAXY-) MAXYGEN APS.  
 XX (MAXY-) MAXYGEN HOLDINGS LTD.  
 XX  
 XX Andersen KV, Pedersen AH, Freskgaard PO;  
 XX WPI; 2002-489875/52.  
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 XX Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 PS Claim 9; Page; 92pp; English.  
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 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (I) a variant (IV) of (II) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe313Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (W2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistant to inhibitors, reduced

CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections. Moreover, a  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the anti-inflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 XX Sequence 419 AA;  
 XX  
 XX Query Match 99.6%; Score 2315; DB 5; Length 419;  
 XX Best Local Similarity 99.8%; Pred. No. 1.2e-142;  
 XX Matches 418; Conservative 0; Mismatches 1; Indels 0; Gaps 0;  
 XX  
 XX 1 ANSFLEELRHSSLERECIEICDFEAKETIFQVNDDTLAFMSKIVDQCLVPLEHPCA 60  
 XX 1 ANSFLEELRHSSLERECIEICDFEAKETIFQVNDDTLAFMSKIVDQCLVPLEHPCA 60  
 XX 61 SLCCGHTCIDIGTGSFSCDGRSGWEGRCOREVSPINCSLDNGGCTHYCLEBYGMRCSG 120  
 XX 61 SLCCGHTCIDIGTGSFSCDGRSGWEGRCOREVSPINCSLDNGGCTHYCLEBYGMRCSG 120  
 XX 121 AREGYKLGDDILQCHPAVKPFCGRPMKMEKKRSHLKRDEDEQVQVPRLLIDKMTRRGD 180  
 XX 121 AREGYKLGDDILQCHPAVKPFCGRPMKMEKKRSHLKRDEDEQVQVPRLLIDKMTRRGD 180  
 XX 181 SPWQVLLDSKKKLCAGAVLHPSVWLTAACMDSESKLLVLAEGYDLRMEKELLDLI 240  
 XX 181 SPWQVLLDSKKKLCAGAVLHPSVWLTAACMDSESKLLVLAEGYDLRMEKELLDLI 240  
 XX 241 KEVFEHENVYSTTNDNDIALHLAOPATLSGTVPLCLPDSGLARELNQAQGETLVGM 300  
 XX 241 KEVFEHENVYSTTNDNDIALHLAOPATLSGTVPLCLPDSGLARELNQAQGETLVGM 300  
 XX 301 GYHSRSEKAEARNTPVLFNFIKIPVPHNECSEVMNMYSEMKACAGLLRDQDACEGDS 360  
 XX 301 GYHSRSEKAEARNTPVLFNFIKIPVPHNECSEVMNMYSEMKACAGLLRDQDACEGDS 360  
 XX 361 GGPVNASFHGTWFLVGLVSGEGCLLHNYGVYTKVSRYLDMHGHIRDEAPQKSWAP 419  
 XX 361 GGPVNASFHGTWFLVGLVSGEGCLLHNYGVYTKVSRYLDMHGHIRDEAPQKSWAP 419  
 XX 361 GGPVNASFHGTWFLVGLVSGEGCLLHNYGVYTKVSRYLDMHGHIRDEAPQKSWAP 419  
 XX  
 XX RESULT 61  
 XX AAU99052  
 XX ID AAU99052 standard; protein: 419 AA.  
 XX  
 XX AAU99052;  
 XX  
 XX 23-AUG-2002 (first entry)  
 XX  
 XX Human Protein C zymogen protein mutant S305N/E307T.  
 XX  
 XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KM serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KM after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KM sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KM bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KM adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 XX Key  
 XX Protein  
 XX Peptide  
 XX Peptide  
 XX Location/Qualifiers  
 XX 1..155  
 XX /label= Light\_chain  
 XX 156..157  
 XX /label= Lys\_Arg\_dipeptide

FT Protein 158..419  
 FT /label= Heavy\_chain  
 FT Peptide 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 305  
 FT /note= "Wild-type Ser substituted by Asn"  
 FT /note= "Wild-type Glu substituted by Thr"  
 FT Misc-difference 307  
 FT /note= "Wild-type Glu substituted by Thr"  
 PN WO200232461-A2.  
 XX  
 PD 25-APR-2002.  
 XX  
 PF 15-OCT-2001; 2001WO-DK000679.  
 XX  
 PR 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-024268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN ABS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 XX  
 PI Andersen KV, Pedersen AH, Friesgaard PO;  
 XX  
 DR WPI; 2002-469875/52.  
 XX  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 PS Claim 9; Page; 92pp; English.  
 XX  
 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (I) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr102Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe166Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction (MCI), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections, reduced  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 SO Sequence 419 AA;

Query Match 99.6%; Score 2315; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1,2e-142;  
 Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;  
 QY 1 ANSFLERHSSLEBCEIEICDFEPAKEIFQNDTDLTAFWSKRYDQGLVPLRHPQA 60  
 DB 1 ANSFLERHSSLEBCEIEICDFEPAKEIFQNDTDLTAFWSKRYDQGLVPLRHPQA 60  
 QY 61 SLCCGGTCTDGTGSPSCDSCSGMEGRFCQREVSFLNCSLDNCGCTHCLBEVGRRCSC 120  
 DB 61 SLCCGGTCTDGTGSPSCDSCSGMEGRFCQREVSFLNCSLDNCGCTHCLBEVGRRCSC 120  
 QY 121 APGYKLGDDLLQCHPAVPCQGRPMKMEKRSKSLKEDTEDQEDQVPRLLDGMTRRGD 180  
 DB 121 APGYKLGDDLLQCHPAVPCQGRPMKMEKRSKSLKEDTEDQEDQVPRLLDGMTRRGD 180  
 QY 161 SPWQVVLDSKKKALCGAVLIHPSVLTAAHOMBSKLLVRLGEVDLRRREKVELDLDI 240  
 DB 161 SPWQVVLDSKKKALCGAVLIHPSVLTAAHOMBSKLLVRLGEVDLRRREKVELDLDI 240  
 QY 241 KEVFGHNTSKSTNDIALHLAOPATLSQITVPLCPDPSGLARELNQAGQETLVGW 300  
 DB 241 KEVFGHNTSKSTNDIALHLAOPATLSQITVPLCPDPSGLARELNQAGQETLVGW 300  
 QY 301 GYHSSREKAKENRTFVNLFIKIPVPHNECSEVSNMVSNNMLCAGILGRODACEGDS 360  
 DB 301 GYHSSREKAKENRTFVNLFIKIPVPHNECSEVSNMVSNNMLCAGILGRODACEGDS 360  
 QY 361 GGPVWASFTGTFTFLVGLVSNMGCGGLHNYGYTKVSRYLTDHGHINDKRAPQKSNAP 419  
 DB 361 GGPVWASFTGTFTFLVGLVSNMGCGGLHNYGYTKVSRYLTDHGHINDKRAPQKSNAP 419  
 RESULT 62  
 AAU99034  
 ID AAU99034 standard; protein, 419 AA.  
 XX  
 AC AAU99034;  
 XX  
 DT 23-AUG-2002 (first entry)  
 XX  
 XX Human Protein C zymogen protein mutant K251N/7253S.  
 XX  
 XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 XX serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 XX after venous thrombosis; disseminated intravascular coagulation; DIC;  
 XX sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 XX bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 XX adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutain.  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 FH Key  
 FT Location/Qualifiers  
 FT 1..155 /label= Light\_chain  
 FT 156..157 /label= Lys\_Arg\_dipeptide  
 FT /label= Lys\_Arg\_dipeptide  
 FT 158..419 /label= Heavy\_chain  
 FT Peptide 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 251  
 FT /note= "Wild-type Lys substituted by Asn"  
 FT Misc-difference 253  
 FT /note= "Wild-type Thr substituted by Ser"  
 FT  
 FT WO200232461-A2.  
 PN  
 PD 25-APR-2002.  
 XX  
 PF 15-OCT-2001; 2001WO-DK000679.  
 XX

PR 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 PI Andersen KV, Pedersen AH, Freakgaard PO;  
 XX WPI; 2002-489875/52.  
 DR  
 XX  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 PS  
 PS Claim 9; Page; 92pp; English.

CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (i) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln/  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the anti-inflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 CC  
 XX  
 XX Sequence 419 AA;

Query Match 99.6%; Score 2315; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1.2e-142;  
 Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSFEELRHSLSRECEIEICDPEAKEIFQVNDTLAFMSKHDGQCLVPLEHPCA 60  
 DB 1 ANSFEELRHSLSRECEIEICDPEAKEIFQVNDTLAFMSKHDGQCLVPLEHPCA 60  
 QY 61 SLCCGHTCIDIGISFSCDGRSGWGRFCQREVSFLNCSLDNGGCTHYCTLEEVGRRCSC 120  
 DB 61 SLCCGHTCIDIGISFSCDGRSGWGRFCQREVSFLNCSLDNGGCTHYCTLEEVGRRCSC 120  
 QY 121 AFGYKUGDILQCHPAKPCGPKMEKKRSKTRDDEDDVDPRLIDKMRKRD 180  
 DB 121 AFGYKUGDILQCHPAKPCGPKMEKKRSKTRDDEDDVDPRLIDKMRKRD 180

QY 181 SPMQVLLDSKKKLAAGAVLIHPSWVLTAAHCDSESKKLVRLEGYDLRMRKELDLDT 240  
 DB 181 SPMQVLLDSKKKLAAGAVLIHPSWVLTAAHCDSESKKLVRLEGYDLRMRKELDLDT 240  
 QY 241 KEVFNHNYSKSTTNDIALLHLAQPATLSQTTIVICLPDSGLAEELNQAQCELTLYGW 300  
 DB 241 KEVFNHNYSKSTTNDIALLHLAQPATLSQTTIVICLPDSGLAEELNQAQCELTLYGW 300  
 QY 301 GYHSSREKEAKRRRTFVNFIFKIPVPHNECEVSNVSNMCLAGIIGDRQDACEDS 360  
 DB 301 GYHSSREKEAKRRRTFVNFIFKIPVPHNECEVSNVSNMCLAGIIGDRQDACEDS 360  
 QY 361 GGPWVASFHGTWFLVGLVSWGCGGLAHNYGYTVYSRYLDWTHGIRDKAAPQKSNAP 419  
 DB 361 GGPWVASFHGTWFLVGLVSWGCGGLAHNYGYTVYSRYLDWTHGIRDKAAPQKSNAP 419

RESULT 63  
 AAU99066  
 ID AAU99066 standard; protein; 419 AA.  
 AC AAU99066;  
 DT 23-AUG-2002 (first entry)  
 XX  
 XX Human Protein C zymogen protein mutant T315N/V317T.  
 DE  
 XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 XX serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 XX after venous thrombosis, disseminated intravascular coagulation; DIC;  
 XX sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 XX bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 XX adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 FH Key Location/Qualifiers  
 FT Protein 1..155  
 FT Peptide /label= light\_chain  
 FT /label= Lys\_Arg\_dipeptide  
 FT Protein 156..157  
 FT /label= Lys\_Arg\_dipeptide  
 FT Protein 158..419  
 FT /label= Heavy\_chain  
 FT Peptide 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 315  
 FT /note= "Wild-type Thr substituted by Asn"  
 FT Misc-difference 317  
 FT /note= "Wild-type Val substituted by Thr"  
 XX  
 XX MO200232461-A2.  
 PD 25-APR-2002.  
 XX  
 XX 15-OCT-2001; 2001WO-DK000679.  
 XX  
 XX 18-OCT-2000; 2000DK-00001560.  
 XX 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 XX (MAXY-) MAXYGEN APS.  
 XX (MAXY-) MAXYGEN HOLDINGS LTD.  
 PI Andersen KV, Pedersen AH, Freakgaard PO;  
 XX WPI; 2002-489875/52.  
 DR  
 XX  
 XX Novel conjugate useful for treating or preventing septic shock, stroke  
 XX PT and myocardial infarction, comprises non-polypeptide group covalently  
 XX PT attached to protein C polypeptide comprising an attachment group.

XX Claim 9; Page: 92pp; English.

CC The invention relates to a conjugate (I) comprising at least one non-  
CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
CC a protein C polypeptide comprising an amino acid sequence which differs  
CC from that of a parent protein C polypeptide (III) in at least one  
CC introduced and/or at least one removed amino acid residue comprising an  
CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
CC site). Also included are (1) a variant (IV) of (III) comprising a  
CC substitution in a position (P) where (P) is an amino acid with at least  
CC 25% of its side group exposed to the surface, with the proviso that the  
CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Glu/Gly/Gln/  
CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Glu/Gly/Gln or Phe315Ser/Ala/Thr/  
CC His/Lys/Arg/Asn/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
CC life or the serum half-life of a parent protein C polypeptide. The  
CC conjugates, variants and protein C proteins are useful as medicaments,  
CC and in the manufacture of medicaments for the treatment (and  
CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
CC transplantation, burns, pregnancy, major surgery/trauma or adult  
CC respiratory distress syndrome (ARDS). The variant protein C has an  
CC increased resistance to activation by e.g. human plasma and alpha-1  
CC antitrypsin. The conjugates have an increased in vivo half-life,  
CC increased serum half-life, increased resistance to inhibitors, reduced  
CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
CC The conjugate offers a number of advantages over the currently available  
CC APC products, including longer duration between injections,  
CC administration of less protein, and fewer side effects. Moreover, a  
CC reduced anticoagulant activity is beneficial to reduce the risk of  
CC bleeding while maintaining the antiinflammatory activity of APC  
CC (activated protein C) conjugates. This must be especially important when  
CC the conjugate has an extended plasma life. The gene for protein C is  
CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
CC protein C variant of the invention. Note: The present sequence is not  
CC shown in the specification but was created by the indexer using the  
CC protein C sequence appearing as AA099002 and the information in claim 9  
XX  
XX  
SQ Sequence 419 AA;

Query Match 99.6%; Score 2315; DB 5; Length 419;  
Best Local Similarity 99.5%; Pred. No. 1.2e-142;  
Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 ANSFLELRHSLSRECEIEICDFEAEKEIFQVNDDTLAFMSKHVDGQCLVPLEHPCA 60  
DB 1 ANSFLELRHSLSRECEIEICDFEAEKEIFQVNDDTLAFMSKHVDGQCLVPLEHPCA 60  
QY 61 SLCCGHGTCIDGIGSPDCRSGMEGRFCQREVSFLNCSLNGSGCTHYCLEEVGMRRSC 120  
DB 61 SLCCGHGTCIDGIGSPDCRSGMEGRFCQREVSFLNCSLNGSGCTHYCLEEVGMRRSC 120  
QY 121 AFGYKLDLLIQCHPAVKFPCGRPMKMEKKRSHLRKDTEDQEDQVPRLLIDGKMTRRGD 180  
DB 121 AFGYKLDLLIQCHPAVKFPCGRPMKMEKKRSHLRKDTEDQEDQVPRLLIDGKMTRRGD 180  
QY 181 SPQVYVLLDSKKKLAGAVLTHPSVWTLTAHCHWDSKKLVLRLGEYDLRWEKEMELDDI 240  
DB 181 SPQVYVLLDSKKKLAGAVLTHPSVWTLTAHCHWDSKKLVLRLGEYDLRWEKEMELDDI 240  
QY 241 KEVFAHPVYSKSTTDNDIALHLAQPATLSQTVPLCLPDSGLAEELNAQCELTLYVGM 300  
DB 241 KEVFAHPVYSKSTTDNDIALHLAQPATLSQTVPLCLPDSGLAEELNAQCELTLYVGM 300  
QY 301 GHSSREKEAKRNNTFLNFIKIPVPHNCSVSNWSENMLCAGIIGDQDACEDS 360  
DB 301 GHSSREKEAKRNNTFLNFIKIPVPHNCSVSNWSENMLCAGIIGDQDACEDS 360  
QY 361 GGPWVASFHGTWELVGLVSMGEGGLLHNYGYTTSRYLDMIGHIRDEKAPQKSWAP 419  
DB 361 GGPWVASFHGTWELVGLVSMGEGGLLHNYGYTTSRYLDMIGHIRDEKAPQKSWAP 419

DB 361 GGPWVASFHGTWELVGLVSMGEGGLLHNYGYTTSRYLDMIGHIRDEKAPQKSWAP 419

RESULT 64  
AAB36897  
ID AAB36897 standard; protein, 419 AA.

AC AAB36897;

DT 26-FEB-2001 (first entry)

DE Human protein C derivative 4.

KM Protein C; human; vascular occlusive; burn; transplantation;  
KM deep vein thrombosis; sickle cell; thalassemia; thrombotic disorders;  
KM myocardial infarction; angina; stroke.

XX Homo sapiens.

PN W020006754-A1.

PD 09-NOV-2000.

PF 13-APR-2000; 2000MO-US008722.

PR 30-APR-1999; 99US-0131801P.

PA (EHLI) LILLY & CO ELI.

PI Gerlitz BE, Jones BE;

DR WPI: 2001-007227/01.

DR N-PSDB; AAC8314.

PT Protein C derivatives, useful for treating vascular occlusive disorder,  
PT hypercoagulable state, thrombotic disorder and disease states

XX predisposing thrombosis, comprises specific amino acid substitutions.

PS Claim 5; Page 48-49; 57pp; English.

CC The present invention relates to a human protein C derivative. The  
CC protein is useful for treating vascular occlusive disorders,  
CC hypercoagulable states such as sepsis, disseminated intravascular  
CC coagulation, purpura fulminans, major trauma, major surgery, burns, adult  
CC respiratory distress syndrome, transplantation, deep vein thrombosis,  
CC heparin-induced thrombocytopenia, sickle cell disease, thalassemia, viral  
CC hemorrhagic fever, thrombotic thrombocytopenic purpura, and hemolytic  
CC uremic syndrome, and also useful for treating thrombotic disorders and  
CC acute coronary syndromes such as myocardial infarction, unstable angina,  
CC and stroke. Protein C derivatives with amino acid substitutions result in  
CC increased resistance to inactivation by serpins when compared to wild-  
CC type activated human protein C. They also have longer half-lives in human  
CC blood and hence require either less frequent administration and/or  
CC smaller dosage than wild type human protein C for treating disorders

XX  
SQ Sequence 419 AA;

Query Match 99.6%; Score 2314; DB 4; Length 419;  
Best Local Similarity 99.5%; Pred. No. 1.4e-142;  
Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSFLELRHSLSRECEIEICDFEAEKEIFQVNDDTLAFMSKHVDGQCLVPLEHPCA 60  
DB 1 ANSFLELRHSLSRECEIEICDFEAEKEIFQVNDDTLAFMSKHVDGQCLVPLEHPCA 60  
QY 61 SLCCGHGTCIDGIGSPDCRSGMEGRFCQREVSFLNCSLNGSGCTHYCLEEVGMRRSC 120  
DB 61 SLCCGHGTCIDGIGSPDCRSGMEGRFCQREVSFLNCSLNGSGCTHYCLEEVGMRRSC 120  
QY 121 AFGYKLDLLIQCHPAVKFPCGRPMKMEKKRSHLRKDTEDQEDQVPRLLIDGKMTRRGD 180  
DB 121 AFGYKLDLLIQCHPAVKFPCGRPMKMEKKRSHLRKDTEDQEDQVPRLLIDGKMTRRGD 180

QY 181 SPQVVLDSKKKLAAGAVLHPSVWLTAAHCDSESKLLVRLGEYDLRREKWEJLDI 240  
 XX  
 DB 181 SPQVVLDSKKKLAAGAVLHPSVWLTAAHCDSESKLLVRLGEYDLRREKWEJLDI 240  
 QY 241 KEVFHNPVSKSTTDNDIALHLAOPATLSQITVPICLPDSGLARELNQAGETLVYGM 300  
 DB 241 KEVFHNPVSKSTTDNDIALHLAOPATLSQITVPICLPDSGLARELNQAGETLVYGM 300  
 QY 301 GHSSREKARNTFTVLPFIKIPVPHNECESEMNVSNNLCAGILGDRDACEGDS 360  
 DB 301 GHSSREKARNTFTVLPFIKIPVPHNECESEMNVSNNLCAGILGDRDACEGDS 360  
 QY 361 GGPMVASFHGTWFLVGLVSWGSCGLHNHYGVYTKVSRYLDMHGHTRDEKAPQKSMAP 419  
 DB 361 GGPMVASFHGTWFLVGLVSWGSCGLHNHYGVYTKVSRYLDMHGHTRDEKAPQKSMAP 419

## RESULT 65

AAU99005 standard, protein: 419 AA.

AAU99005;

23-AUG-2002 (first entry)

Human Protein C zymogen protein mutant D189N/K191S.

Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;

serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;

after venous thrombosis; disseminated intravascular coagulation; DIC;

sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;

bone marrow transplantation; major surgery; trauma; AIDS; coagulant;

adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mulein.

Homo sapiens.

Synthetic.

Location/Qualifiers

1..155

/label= Light\_chain

156..157

/label= Lys\_Arg\_dipeptide

158..419

/label= Heavy\_chain

158..1169

/label= Activation\_peptide

189

/note= "Wild-type Asp substituted by Asn"

Misc-difference 191

/note= "Wild-type Lys substituted by Ser"

WO200232461-A2.

25-APR-2002.

15-OCT-2001; 2001WO-DK000679.

18-OCT-2000; 2000DK-00001560.

18-OCT-2000; 2000US-0242268P.

21-JUN-2001; 2001DK-00000970.  
 21-JUN-2001; 2001US-0300154P.  
 (MAXY-) MAXYGEN APS.  
 (MAXY-) MAXYGEN HOLDINGS LTD.  
 Andersen KV, Pedersen AH, Friesgaard PO;  
 WPI; 2002-489875/52.  
 Novel conjugate useful for treating or preventing septic shock, stroke  
 and myocardial infarction, comprises non-polypeptide group covalently  
 attached to protein C polypeptide comprising an attachment group.

PS Claim 9; Page: 92pp; English.

XX The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln/Thr/  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction (MI), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections. Moreover, a  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9

Sequence 419 AA:

Query Match 99.6%; Score 2314; DB 5; Length 419;

Best Local Similarity 99.5%; Pred. No. 1.4e-142;

Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSFLEIRRSLSRECEIEICDFEAKELFQVNDTIAFMSKHVDQCLVPLEHPCA 60  
 DB 1 ANSFLEIRRSLSRECEIEICDFEAKELFQVNDTIAFMSKHVDQCLVPLEHPCA 60  
 QY 61 SLCCGHGTCIDIGISFCDCRSGWEGRFQREVSFLNCSLDNGCTHYCLEEYGRRCSC 120  
 DB 61 SLCCGHGTCIDIGISFCDCRSGWEGRFQREVSFLNCSLDNGCTHYCLEEYGRRCSC 120  
 QY 121 APGYVLGDDLLQCHPAVFPFCRPMKMEKKRSHLKPTEOEDQVDPRLIDGKTRRGD 180  
 DB 121 APGYVLGDDLLQCHPAVFPFCRPMKMEKKRSHLKPTEOEDQVDPRLIDGKTRRGD 180  
 QY 181 SPQVVLDSKKKLAAGAVLHPSVWLTAAHCDSESKLLVRLGEYDLRREKWEJLDI 240  
 DB 181 SPQVVLDSKKKLAAGAVLHPSVWLTAAHCDSESKLLVRLGEYDLRREKWEJLDI 240  
 QY 241 KEVFHNPVSKSTTDNDIALHLAOPATLSQITVPICLPDSGLARELNQAGETLVYGM 300  
 DB 241 KEVFHNPVSKSTTDNDIALHLAOPATLSQITVPICLPDSGLARELNQAGETLVYGM 300  
 QY 301 GHSSREKARNTFTVLPFIKIPVPHNECESEMNVSNNLCAGILGDRDACEGDS 360  
 DB 301 GHSSREKARNTFTVLPFIKIPVPHNECESEMNVSNNLCAGILGDRDACEGDS 360  
 QY 361 GGPMVASFHGTWFLVGLVSWGSCGLHNHYGVYTKVSRYLDMHGHTRDEKAPQKSMAP 419  
 DB 361 GGPMVASFHGTWFLVGLVSWGSCGLHNHYGVYTKVSRYLDMHGHTRDEKAPQKSMAP 419

Query	1	ANSFLEELRHSSLEERCIEEICDPEEAKELFONVDLTIAFWSKHVDGDCIYLPLEHPQA	60
Db	1	ANSFLEELRHSSLEERCIEEICDPEEAKELFONVDLTIAFWSKHVDGDCIYLPLEHPQA	60
Qy	61	SLCCGHCCTCIDGSSCCDCSSGMEGFQCRVSVLNSLNDGCGTHYCLEBVMRCSC	120
Db	61	SLCCGHCCTCIDGSSCCDCSSGMEGFQCRVSVLNSLNDGCGTHYCLEBVMRCSC	120
Qy	121	APGYKLGDLLQCHPVPKPCGRFWKMKMKSHLKDPTEDQEDQYDPLIDGMTRRGD	180
Db	121	APGYKLGDLLQCHPVPKPCGRFWKMKMKSHLKDPTEDQEDQYDPLIDGMTRRGD	180
Qy	181	SPQVYLLDSSKKLACGAVLTHPSWVLTAAHCDMSKKLVLRGEVDLRRKKKELDLDT	240
Db	181	SPQVYLLDSSKKLACGAVLTHPSWVLTAAHCDMSKKLVLRGEVDLRRKKKELDLDT	240
Qy	241	KEVFVHPVNSKSTDDNIALHLAQPTLSQITVEICLPDSGLAEELINQAGETTIVTGM	300
Db	241	KEVFVHPVNSKSTDDNIALHLAQPTLSQITVEICLPDSGLAEELINQAGETTIVTGM	300
Qy	301	GHSRSREKARNRNTFVNLFIKIPVPHNECSHWSNNVSENMLCAGLLGRDQACGDS	360
Db	301	GHSRSREKARNRNTFVNLFIKIPVPHNECSHWSNNVSENMLCAGLLGRDQACGDS	360
Qy	361	GGMVNASRHGTWFLVNGVSMERGGGLAHNYGVYTVASRYLDMLHGIIRPKAPKSWAP	419
Db	361	GGMVNASRHGTWFLVNGVSMERGGGLAHNYGVYTVASRYLDMLHGIIRPKAPKSWAP	419

RESULT 67  
AAU99039 standard; protein; 419 AA.

AAU99039;  
23-AUG-2002 (first entry)

Human Protein C zymogen protein mutant T254N/N256S.

Human, Protein C; N-glycosylation; APC; activated protein C; zymogen; serum half-life; chromosome 2q13-q14; stroke; myocardial infarction; after venous thrombosis; disseminated intravascular coagulation; DIC;

KM sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KM bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KM adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 FH Key  
 FT Location/Qualifiers  
 FT 1..155  
 FT /label= Light\_chain  
 FT Peptide  
 FT 156..157  
 FT /label= Lys\_Arg\_dipeptide  
 FT Protein  
 FT 158..419  
 FT /label= Heavy\_chain  
 FT Peptide  
 FT 159..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 254  
 FT /note= "Wild-type Thr substituted by Asn"  
 FT Misc-difference 256  
 FT /note= "Wild-type Asn substituted by Ser"  
 FT  
 EN WO200232461-A2.  
 XX  
 XX 25-APR-2002.  
 XX  
 XX 15-OCT-2001; 2001WO-DK000679.  
 XX  
 ER 18-OCT-2000; 2000DK-00001560.  
 ER 18-OCT-2000; 2000US-0242268P.  
 ER 21-JUN-2001; 2001DK-00000970.  
 ER 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 XX  
 PI Andersen KV, Pedersen AH, Freskgard PO;  
 XX  
 DR WPI; 2002-489875/52.  
 XX  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 PT  
 XX  
 XX Claim 9; Page: 92pp; English.

CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AA099002 and the information in claim 9  
 XX  
 XX SQ Sequence 419 AA;  
 XX  
 Query Match 99.6%; Score 2314; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1.4e-142;  
 Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;  
 QY 1 ANSFLELRHSLERECIEICDPEAKEIFQVNDTLAFWSKIVDQCLVPLEHCA 60  
 DB 1 ANSFLELRHSLERECIEICDPEAKEIFQVNDTLAFWSKIVDQCLVPLEHCA 60  
 QY 61 SLCCGHGTCIDGIGSFCDCRSQWEGRFQREYSPFNSLNGCCTHYCLEBYGWRRCSC 120  
 DB 61 SLCCGHGTCIDGIGSFCDCRSQWEGRFQREYSPFNSLNGCCTHYCLEBYGWRRCSC 120  
 QY 121 APGYRLGDDLLQCHPAVKPCGRPMKREKRSKRLKRDTEQDEQVDPRLIDKMTRRGD 180  
 DB 121 APGYRLGDDLLQCHPAVKPCGRPMKREKRSKRLKRDTEQDEQVDPRLIDKMTRRGD 180  
 QY 181 SPWQVLLIDSKKKLACGAVLHPSSVLTAAHCDSESKLVLGEYDLRMKWELELDI 240  
 DB 181 SPWQVLLIDSKKKLACGAVLHPSSVLTAAHCDSESKLVLGEYDLRMKWELELDI 240  
 QY 241 KEVPFHPVSKSTNDIDILHLAOPATLSQTVPCIPDSGLAERELNAGETLVLGM 300  
 DB 241 KEVPFHPVSKSTNDIDILHLAOPATLSQTVPCIPDSGLAERELNAGETLVLGM 300  
 QY 301 GYHSREKEAKRRTVLFNFIKIPVPHNECSRWNSNMWSENMLCAGILDRQDACBGDS 360  
 DB 301 GYHSREKEAKRRTVLFNFIKIPVPHNECSRWNSNMWSENMLCAGILDRQDACBGDS 360  
 QY 361 GGPWVASFGHTWPLVGLVSWGEGCGLLHNYGVTTKRSYLLWIGHIRDEAKQSNAP 419  
 DB 361 GGPWVASFGHTWPLVGLVSWGEGCGLLHNYGVTTKRSYLLWIGHIRDEAKQSNAP 419  
 XX  
 XX RESULT 68  
 XX AA099076  
 XX ID AA099076 standard; protein, 419 AA.  
 XX  
 XX AA099076;  
 XX  
 DT 23-AUG-2002 (first entry)  
 XX  
 XX Human Protein C zymogen protein mutant M338N/S340T.  
 XX  
 XX Human Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KM serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KM after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KM sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KM bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KM adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 FH Key  
 FT Location/Qualifiers  
 FT 1..155  
 FT /label= Light\_chain  
 FT Peptide  
 FT 156..157  
 FT /label= Lys\_Arg\_dipeptide  
 FT Protein  
 FT 158..419  
 FT /label= Heavy\_chain  
 FT Peptide  
 FT 159..169  
 FT /label= Heavy\_chain



FT /label= Activation\_peptide  
 FT Misc-difference 338  
 FT /note= "Wild-type Met substituted by Asn"  
 FT Misc-difference 340  
 FT /note= "Wild-type Ser substituted by Thr"  
 XX  
 PN WO200232461-A2.  
 XX  
 PD 25-APR-2002.  
 XX  
 PF 15-OCT-2001; 2001WO-DK000679.  
 XX  
 XX 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 PI Andersen KV, Pedersen AH, Freaekgaard PO;  
 XX  
 DR WPI; 2002-489875/52.  
 XX  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 PS Claim 9; Page; 92pp; English.  
 XX  
 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (p) where (p) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe156Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between infections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 SQ Sequence 419 AA;  
 Query Match 99.6%; Score 2314; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1.4e-142;  
 Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSFLERLHSSLEPCEETEEIPEERAKETIPONDOTLAFWSHNDGQCVLPLEHPCA 60  
 DB 1 ANSFLERLHSSLEPCEETEEIPEERAKETIPONDOTLAFWSHNDGQCVLPLEHPCA 60  
 QY 61 SLCCGHGTCTIDIGSFGSCDCRSQMEGRFCQREVSFLNCSLDNCGCTHYCLEEVMRCSC 120  
 DB 61 SLCCGHGTCTIDIGSFGSCDCRSQMEGRFCQREVSFLNCSLDNCGCTHYCLEEVMRCSC 120  
 QY 121 APGYKLGDDILQCHPAVFPQGRPMKMKRSHLKDTEQOEDQVDPRLIDKMTTRGD 180  
 DB 121 APGYKLGDDILQCHPAVFPQGRPMKMKRSHLKDTEQOEDQVDPRLIDKMTTRGD 180  
 QY 121 APGYKLGDDILQCHPAVFPQGRPMKMKRSHLKDTEQOEDQVDPRLIDKMTTRGD 180  
 DB 121 APGYKLGDDILQCHPAVFPQGRPMKMKRSHLKDTEQOEDQVDPRLIDKMTTRGD 180  
 QY 181 SPWQVVLDSKKKALCGAVLHPSWVLTAAHOMDSKLLVIRGEVDLRMKKHELDLDI 240  
 DB 181 SPWQVVLDSKKKALCGAVLHPSWVLTAAHOMDSKLLVIRGEVDLRMKKHELDLDI 240  
 QY 241 KEVEFHPNYSKSTTNDTALTLAOPATLSQTTIVICLPDSGLARELNQAGQETLVYWG 300  
 DB 241 KEVEFHPNYSKSTTNDTALTLAOPATLSQTTIVICLPDSGLARELNQAGQETLVYWG 300  
 QY 301 GHSSREKREKRRRTFVLFKIPVPHNEGSEVSNVSENNLCAGITGRDACEGDS 360  
 DB 301 GHSSREKREKRRRTFVLFKIPVPHNEGSEVSNVSENNLCAGITGRDACEGDS 360  
 QY 361 GSPWVASFHGTWFTVLGWSWEGGGLHNYGYTWSYLDWHGTRKAPQKSNAP 419  
 DB 361 GSPWVASFHGTWFTVLGWSWEGGGLHNYGYTWSYLDWHGTRKAPQKSNAP 419  
 RESULT 69  
 ID AAU99097 standard; protein; 419 AA.  
 AC AAU99097;  
 DT 23-AUG-2002 (first entry)  
 XX  
 DE Human Protein C zymogen protein mutant D189N/K191N.  
 XX  
 KM Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KM serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KM after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KM sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KM bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KM adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 PH Key Location/Qualifiers  
 PH Protein 1..155  
 FT Peptide /label= Light\_chain  
 FT Peptide 156..157  
 FT Protein /label= Lys\_Arg\_dipeptide  
 FT Peptide 158..419  
 FT Peptide /label= Heavy\_chain  
 FT Peptide 158..169  
 FT Misc-difference 189 /label= Activation\_peptide  
 FT Misc-difference 191 /note= "Wild-type Asp substituted by Asn"  
 FT Misc-difference 191 /note= "Wild-type Lys substituted by Asn"  
 PN WO200232461-A2.  
 PD 25-APR-2002.  
 XX  
 XX 15-OCT-2001; 2001WO-DK000679.  
 XX  
 XX 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.

21-JUN-2001; 2001US-0300154P.  
 (MAXY-) MAXYGEN APS.  
 (MAXY-) MAXYGEN HOLDINGS LTD.  
 Andersen KV, Pedersen AH, Freskgaard PO,  
 WPI; 2002-489875/52.  
 Novel conjugate useful for treating or preventing septic shock, stroke and myocardial infarction, comprises non-polypeptide group covalently attached to protein C polypeptide comprising an attachment group.  
 Example 5; Page; 92pp; English.

The invention relates to a conjugate (I) comprising at least one non-polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to a protein C polypeptide comprising an amino acid sequence which differs from that of a parent protein C polypeptide (III) in at least one introduced and/or at least one removed amino acid residue comprising an attachment group for the non-polypeptide group (e.g. an N-glycosylation site). Also included are (i) a variant (IV) of (III) comprising a substitution in a position (P) where (P) is an amino acid with at least 25% of its side group exposed to the surface, with the proviso that the substitution is not Thr23Ser/Ala/Thr/His/Lys/Asn/Asp/Glu/Gly/Gln, Tyr302Ser/Ala/Thr/His/Lys/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/His/Lys/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII) comprising (V) or (VI); (5) increasing (W2) the functional in vivo half-life or the serum half-life of a parent protein C polypeptide. The conjugates, variants and protein C proteins are useful as medicaments, and in the manufacture of medicaments for the treatment (and diagnosis/prevention) of stroke, myocardial infarction, after venous thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow transplantation, burns, pregnancy, major surgery/trauma or adult respiratory distress syndrome (ARDS). The variant protein C has an increased resistance to activation by e.g. human plasma and alpha-1 antitrypsin. The conjugates have an increased in vivo half-life, increased serum half-life, increased resistance to inhibitors, reduced renal clearance, reduced immunogenicity and/or increased bioavailability. The conjugate offers a number of advantages over the currently available APC products, including longer duration between injections, administration of less protein, and fewer side effects. Moreover, a reduced anticoagulant activity is beneficial to reduce the risk of bleeding while maintaining the anti-inflammatory activity of APC (activated protein C) conjugates. This must be especially important when the conjugate has an extended plasma life. The gene for protein C is located on chromosome 2q13-q14. The present sequence represents a zymogen protein C variant of the invention. Note: The present sequence is not shown in the specification but was created by the indexer using the protein C sequence appearing as AAU99002 and the information in claim 9

Sequence 419 AA:

Query Match 99.6%; Score 2314; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1.4e-142;  
 Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSFLERLRSSLERECIEECDFEAKELFONVDDTLAEMKRVHVGDCVLTLEPRCA 60  
 DB 1 ANSFLERLRSSLERECIEECDFEAKELFONVDDTLAEMKRVHVGDCVLTLEPRCA 60  
 QY 61 SLCCGSGTCTIDIGSFCDCRSWGEGFPCQREVSFLNCSLDNG3CTHYCLEBVMRCSC 120  
 DB 61 SLCCGSGTCTIDIGSFCDCRSWGEGFPCQREVSFLNCSLDNG3CTHYCLEBVMRCSC 120  
 QY 121 APGYKGDLLQCHAVKPCGPRWMEKKSXKAPTEPOEDQVDPPLIDGMKTRRG 180  
 DB 121 APGYKGDLLQCHAVKPCGPRWMEKKSXKAPTEPOEDQVDPPLIDGMKTRRG 180  
 QY 181 SPMQVLLNSKKLACGAVLTHPSWVLTAAHGMDESKKLVLRAGEVDLRBMKEWELDDI 240

DB 181 SPMQVLLNSKKLACGAVLTHPSWVLTAAHGMDESKKLVLRAGEVDLRBMKEWELDDI 240  
 QY 241 KEVFPHPNYSKSTTDNDLLMLHAQPAITSCQTVPCIPDSGLAERLDAQGETLVGW 300  
 DB 241 KEVFPHPNYSKSTTDNDLLMLHAQPAITSCQTVPCIPDSGLAERLDAQGETLVGW 300  
 QY 301 GHSSREKAEKRRNTVLFNFIKIPVPHNCSRWMSNNVSENNLCAGTIGDRDQACEGS 360  
 DB 301 GHSSREKAEKRRNTVLFNFIKIPVPHNCSRWMSNNVSENNLCAGTIGDRDQACEGS 360  
 QY 361 GGPVVASFHGTWFLVGLVSMGEGCGLAHNYGVYTKVSRYLDMIGHIRLDEKAPQSKMAP 419  
 DB 361 GGPVVASFHGTWFLVGLVSMGEGCGLAHNYGVYTKVSRYLDMIGHIRLDEKAPQSKMAP 419  
 RESULT 70  
 AAU99009  
 ID AAU99009 standard; protein; 419 AA.  
 AC AAU99009;  
 DT 23-AUG-2002 (first entry)  
 DE Human Protein C zymogen protein mutant K191N/K193S.  
 KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutelin.  
 OS Homo sapiens.  
 OS Synthetic.  
 FH Key Location/Qualifiers  
 FT Protein 1..155  
 FT Peptide /label= Light\_chain  
 FT Peptide /label= Lys\_Arg\_dipeptide  
 FT Protein 158..419  
 FT Peptide /label= Heavy\_chain  
 FT Peptide /label= Activation\_peptide  
 FT Misc-difference 191  
 FT Misc-difference /note= "Wild-type Lys substituted by Asn"  
 FT Misc-difference 193  
 FT Misc-difference /note= "Wild-type Lys substituted by Ser"  
 PN W0200232461-A2.  
 PD 25-APR-2002.  
 PP 15-OCT-2001; 2001WO-DK000679.  
 PR 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 PA (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 PI Andersen KV, Pedersen AH, Freskgaard PO;  
 DR WPI; 2002-489875/52.  
 XX Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 PS Claim 9; Page; 92pp; English.



CC conjugates variants and protein C proteins are useful as medicaments,  
CC and in the manufacture of medicaments for the treatment (and  
CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
CC transplantation, burns, pregnancy, major surgery/trauma or adult  
CC respiratory distress syndrome (ARDS). The variant protein C has an  
CC increased resistance to activation by e.g. human plasma and alpha-1  
CC antitrypsin. The conjugates have an increased in vivo half-life,  
CC increased serum half-life, increased resistance to inhibitors, reduced  
CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
CC The conjugate offers a number of advantages over the currently available  
CC APC products, including longer duration between injections,  
CC administration of less protein, and fewer side effects. Moreover, a  
CC reduced anticoagulant activity is beneficial to reduce the risk of  
CC bleeding while maintaining the antiinflammatory activity of APC  
CC (activated protein C) conjugates. This must be especially important when  
CC the conjugate has an extended plasma life. The gene for protein C is  
CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
CC protein C variant of the invention. Note: The present sequence is not  
CC shown in the specification but was created by the indexer using the  
CC protein C sequence appearing as AA099002 and the information in claim 9  
CC  
CC Sequence 419 AA,  
CC

Sequence 419 AA;

```

Query Match          99.6%;   Score 2314;   DB 5;   Length 419;
Best Local Similarity 99.5%;   Pred. No. 1.4e-142;
Matches 417;   Conservative 0;   Mismatches 2;   Indels 0;   Gaps 0

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Qy	1	ANSLBIEHSHSLBEECEIEICFEEAEI	IQONVDTLAFMKHYDGOCLVPLBHECA	60
Db	1	ANSLBIEHSHSLBEECEIEICFEEAEI	IQONVDTLAFMKHYDGOCLVPLBHECA	60
Qy	61	SLCCGHCITDIGISFSDCRSGWEGRF	COEYFVFNCSJMDGCGTGYCLEEYGNRCS	120
Db	61	SLCCGHCITDIGISFSDCRSGWEGRF	COEYFVFNCSJMDGCGTGYCLEEYGNRCS	120
Qy	121	APGYKJGDLLLOCHYAKYFPCGR	PKMKNEKKRSHLRTEDEODVDPRLIDGKTRRGD	180
Db	121	APGYKJGDLLLOCHYAKYFPCGR	PKMKNEKKRSHLRTEDEODVDPRLIDGKTRRGD	180
Qy	181	SPWQVVLDSKKKLACGAVLIHPSVYL	TPAAHCDSESKLYALBEOYLREWEKWEI	240
Db	181	SPWQVVLDSKKKLACGAVLIHPSVYL	TPAAHCDSESKLYALBEOYLREWEKWEI	240
Qy	241	KEVYFVHPNYSKSTDDNDIALHLAOPATLS	OTIPICLPDSGLARELINAQOGETLVTGW	300
Db	241	KEVYFVHPNYSKSTDDNDIALHLAOPATLS	OTIPICLPDSGLARELINAQOGETLVTGW	300
Qy	301	GYHSSREKAKARNRTFVLANTKI	PVPFHNCESEVMNVSNNMLCAGIIGDRDACE	360
Db	301	GYHSSREKAKARNRTFVLANTKI	PVPFHNCESEVMNVSNNMLCAGIIGDRDACE	360
Qy	361	GGPVWVASFPGTWELVGLVSMGEGCGLL	NNYCVYTKYSRILDTIHGHIRDEKAPQ	419
Db	361	GGPVWVASFPGTWELVGLVSMGEGCGLL	NNYCVYTKYSRILDTIHGHIRDEKAPQ	419

RESULT 72  
AAT199070

ID	AAU99070 standard; protein; 419 AA.
xx	

AC MAU99070;

DT 23-AUG-2002 (first entry)

Human Protein C zymogen protein mutant V334N/S336T

KV  
KV  
KV  
KV  
KV  
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KV  
KV  
KV  
KV  
KV  
KV  
KV  
KV

hematoma; Protein C; N-glycosylation; APC; activated protein C zymogen;  
Kern half-life; chromosome 2q13-q14; stroke; myocardial infarction,  
after venous thromboembolism; disseminated intravascular coagulation; DIC  
septic shock; embolism; pulmonary embolism; burn; pregnancy;  
bone marrow transplantation; major surgery; trauma; AIDS; coagulants;

XX	adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.	
XX		
OS	Homo sapiens.	
OS	Synthetic.	
FX		
FX	Key	Location/Qualifiers
FT	Protein	1..155
FT		/label=light_chain
FT	Peptide	156..157
FT		/label=lys_arg_dipeptide
FT	Protein	158..419
FT		/label=heavy_chain
FT	Peptide	158..169
FT		/label=Activation_peptide
FT	Misc-difference	334
FT		/note="Wild-type Val substituted by Asn"
FT	Misc-difference	336
FT		/note="Wild-type Ser substituted by Thr"
XX		
XX	WO200232461-A2.	
XX		
XX	25-APR-2002.	
XX		
XX	15-OCT-2001; 2001WO-DK00679.	
XX		
XX	18-OCT-2000; 2000DK-0000160.	
XX	18-OCT-2000; 2000US-024268P.	
XX	21-JUN-2001; 2001DK-0000970.	
XX	21-JUN-2001; 2001US-0300154P.	
XX		
XX	(MAXY-) MAXYGEN APS.	
XX	(MAXY-) MAXYGEN HOLDINGS LTD.	
XX		
XX	Andersen KV, Pedersen AH, Freskgaard PO;	
XX		
XX	WPI; 2002-489875/52.	
XX		
XX	Novel conjugate useful for treating or preventing septic shock, stroke	
XX	PT and myocardial infarction, comprises non-polypeptide group covalently	
XX	attached to protein C polypeptide comprising an attachment group.	
XX		
XX	Claim 9; Page; 92pp; English.	
XX		

The invention relates to a conjugate (I) comprising at least one non-polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to a protein C polypeptide comprising an amino acid sequence which differs from that of a parent protein C polypeptide (III) in at least one introduced and/or at least one removed amino acid residue comprising an attachment group for the non-polypeptide group (e.g. an N-glycosylation site). Also included are (1) a variant (IV) of (III) comprising a substitution in a position (P) where (P) is an amino acid with at least 25% of its side group exposed to the surface, with the proviso that the substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln, Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe331Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII) comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-life or the serum half-life of a parent protein C polypeptide. The conjugates, variants and protein C proteins are useful as medicaments, and in the manufacture of medicaments for the treatment (and diagnosis/prevention) of stroke, myocardial infarction, after venous thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow transplantation, burns, pregnancy, major surgery/trauma or adult respiratory distress syndrome (ARDS). The variant protein C has an increased resistance to activation by e.g. human plasma and alpha-1 antitrypsin. The conjugates have an increased in vivo half-life, increased serum half-life, increased resistance to inhibitors, reduced renal clearance, reduced immunogenicity and/or increased bioavailability. The conjugate offers a number of advantages over the currently available APC products, including longer duration between injections, administration of less protein, and fewer side effects. Moreover, a reduced anticoagulant activity is beneficial to reduce the risk of



```

Db 1 ANSFLEELRHSSLERECIEICDEFEAKEIFQVNDTLAFMSKVVGDQCLVPLEHPCA 60
QY 61 SLCCGHGTCIDIGISFSCDCRSGWEGFCCOREVSPFLNSGLNGCCTHYCLEEVGRRSC 120
Db 61 SLCCGHGTCIDIGISFSCDCRSGWEGFCCOREVSPFLNSGLNGCCTHYCLEEVGRRSC 120
QY 121 APGYTLGDDLLQCHPAVPCGPRPMKMEKKSHLKRTDEQEDQVDPRLIDGKATRRGD 180
Db 121 APGYTLGDDLLQCHPAVPCGPRPMKMEKKSHLKRTDEQEDQVDPRLIDGKATRRGD 180
QY 181 SPQVYVLLDSKKLLAGAVLTHPSWVLTAAHCDMSKKLLVRLGEYDLRMEKWELEDLI 240
Db 181 SPQVYVLLDSKKLLAGAVLTHPSWVLTAAHCDMSKKLLVRLGEYDLRMEKWELEDLI 240
QY 241 KEVFNHNSKSTTDNDIALHLAOPATLSQITVVICLPDSGLAEELNQAQETLVYTWG 300
Db 241 KEVFNHNSKSTTDNDIALHLAOPATLSQITVVICLPDSGLAEELNQAQETLVYTWG 300
QY 301 GYHSSREKAKRRKTFVNLFIKLPVPHNECEVSNVSNVSENNLCAGILGRDACEGDS 360
Db 301 GYHSSREKAKRRKTFVNLFIKLPVPHNECEVSNVSNVSENNLCAGILGRDACEGDS 360
QY 361 GEPVVASFEHGTMTVLGVYSWEGCGGLLNHYGYTVVSRYLDWIHGRDKAPQKSNAP 419
Db 361 GEPVVASFEHGTMTVLGVYSWEGCGGLLNHYGYTVVSRYLDWIHGRDKAPQKSNAP 419
RESULT 74
AAU99055
ID AAU99055 standard; protein; 419 AA.
XX
AC AAU99055;
XX
DT 23-AUG-2002 (first entry)
XX
DE Human Protein C zymogen protein mutant E307N/E309S.
XX
XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;
KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;
KW after venous thrombosis; disseminated intravascular coagulation; DIC;
KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;
KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;
KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutelin.
XX
OS Homo sapiens.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT 1..155
FT /label= Light_chain
FT Peptide 156..157
FT /label= Lys_Arg_dipeptide
FT Protein 158..419
FT /label= Heavy_chain
FT Peptide 158..419
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FT Misc-difference 307
FT /note= "Wild-type Glu substituted by Asn"
FT Misc-difference 309
FT /note= "Wild-type Glu substituted by Ser"
XX
XX W0200232461-A2.
XX
XX 25-APR-2002.
XX
XX 15-OCT-2001; 2001MO-DK000679.
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XX 18-OCT-2000; 2000OK-00001560.
XX 18-OCT-2000; 2000US-0242268P.
XX 21-JUN-2001; 2001DK-00000970.
XX 21-JUN-2001; 2001US-0300154P.
XX

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PA (MAXY-) MAXYGEN APS.
PA (MAXY-) MAXYGEN HOLDINGS LTD.
XX
XX Andersen KV, Pedersen AH, Freskgaard PO;
XX WPI; 2002-489875/52.
XX
XX Novel conjugate useful for treating or preventing septic shock, stroke
XX and myocardial infarction, comprises non-polypeptide group covalently
XX attached to protein C polypeptide comprising an attachment group.
XX
XX Claim 9; Page; 92pp; English.
XX
XX The invention relates to a conjugate (I) comprising at least one non-
XX polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to
XX a protein C polypeptide comprising an amino acid sequence which differs
XX from that of a parent protein C polypeptide (III) in at least one
XX introduced and/or at least one removed amino acid residue comprising an
XX attachment group for the non-polypeptide group (e.g. an N-glycosylation
XX site). Also included are (I) a variant (IV) of (III) comprising a
XX substitution in a position (P) where (P) is an amino acid with at least
XX 25% of its side group exposed to the surface, with the proviso that the
XX substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,
XX Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe315Ser/Ala/Thr/
XX His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding
XX (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)
XX comprising (V) or (VI); (5) increasing (W2) the functional in vivo half-
XX life or the serum half-life of a parent protein C polypeptide. The
XX conjugates, variants and protein C proteins are useful as medicaments,
XX and in the manufacture of medicaments for the treatment (and
XX diagnosis/prevention) of stroke, myocardial infarction, after venous
XX thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic
XX shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow
XX transplantation, burns, pregnancy, major surgery/trauma or adult
XX respiratory distress syndrome (ARDS). The variant protein C has an
XX increased resistance to activation by e.g. human plasma and alpha-1
XX antitrypsin. The conjugates have an increased in vivo half-life,
XX increased serum half-life, increased resistance to inhibitors, reduced
XX renal clearance, reduced immunogenicity and/or increased bioavailability.
XX The conjugate offers a number of advantages over the currently available
XX APC products, including longer duration between injections,
XX administration of less protein, and fewer side effects. Moreover, a
XX reduced anticoagulant activity is beneficial to reduce the risk of
XX bleeding while maintaining the anti-inflammatory activity of APC
XX (activated protein C) conjugates. This must be especially important when
XX the conjugate has an extended plasma life. The gene for protein C is
XX located on chromosome 2q13-q14. The present sequence represents a zymogen
XX protein C variant of the invention. Note: The present sequence is not
XX shown in the specification but was created by the indexer using the
XX protein C sequence appearing as AAU99002 and the information in claim 9
XX
XX Sequence 419 AA:
SQ
QY 1 ANSFLEELRHSSLERECIEICDEFEAKEIFQVNDTLAFMSKVVGDQCLVPLEHPCA 60
Db 1 ANSFLEELRHSSLERECIEICDEFEAKEIFQVNDTLAFMSKVVGDQCLVPLEHPCA 60
QY 61 SLCCGHGTCIDIGISFSCDCRSGWEGFCCOREVSPFLNSGLNGCCTHYCLEEVGRRSC 120
Db 61 SLCCGHGTCIDIGISFSCDCRSGWEGFCCOREVSPFLNSGLNGCCTHYCLEEVGRRSC 120
QY 121 APGYTLGDDLLQCHPAVPCGPRPMKMEKKSHLKRTDEQEDQVDPRLIDGKATRRGD 180
Db 121 APGYTLGDDLLQCHPAVPCGPRPMKMEKKSHLKRTDEQEDQVDPRLIDGKATRRGD 180
QY 181 SPQVYVLLDSKKLLAGAVLTHPSWVLTAAHCDMSKKLLVRLGEYDLRMEKWELEDLI 240
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Query Match 99.6%; Score 2314; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1.4e-142;  
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QY 241 KEVYVHNYSKSTNDNDIALHIAQPATLSQTIPICLPDSGLARELNQAGQETLYTGM 300  
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 AC AAU99017;  
 XX  
 DT 23-AUG-2002 (first entry)  
 XX  
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 KW Human, Protein C, N-glycosylation, APC, activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 XX  
 FH Synthetic.  
 XX  
 FH Key Location/Qualifiers  
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 FT Peptide /label= Lys\_Arg\_dipeptide  
 FT Protein /label= Heavy\_chain  
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 PD 25-APR-2002.  
 XX  
 PF 15-OCT-2001; 2001WO-DK000679.  
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 PR 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 PI Andersen KV, Pedersen AH, Freekgaard PO,  
 DR WPI; 2002-489875/52.  
 XX  
 XX Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 ES Claim 9, Page; 92pp; English.  
 XX  
 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to

CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (p) where (p) is an amino acid with at least  
 CC 2% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln/Thr/  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe315Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between infusions,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 XX SQ Sequence 419 AA;  
 XX  
 Query Match 99.6%; Score 2314; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1.4e-142;  
 Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
 QY 1 ANSFLELNHSLRECEIEICDFEAKEIFONVDITLAFWSKRYVDGQCLVPLRHPQA 60  
 DB 1 ANSFLELNHSLRECEIEICDFEAKEIFONVDITLAFWSKRYVDGQCLVPLRHPQA 60  
 QY 61 SLCCGHTCTIDIGSFSCDRCSGMGRFCOREVSFLNCSLDNGGCTHYCLEBVGMRRCSC 120  
 DB 61 SLCCGHTCTIDIGSFSCDRCSGMGRFCOREVSFLNCSLDNGGCTHYCLEBVGMRRCSC 120  
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 QY 181 SPWQVVLDSKKKLAAGAVLIHPSWTLTAHQMDSKLLVRLGEYDLRRWEKWEIDLDI 240  
 DB 181 SPWQVVLDSKKKLAAGAVLIHPSWTLTAHQMDSKLLVRLGEYDLRRWEKWEIDLDI 240  
 QY 241 KEVYVHNYSKSTNDNDIALHIAQPATLSQTIPICLPDSGLARELNQAGQETLYTGM 300  
 DB 241 KEVYVHNYSKSTNDNDIALHIAQPATLSQTIPICLPDSGLARELNQAGQETLYTGM 300  
 QY 301 GYHSSEKAKAKNRFTVLANFIKIPVPHNECESEVSNMSENNLCAGILGRDADCEGDS 360  
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ID AAU99024 standard; protein, 419 AA.  
 AC AAU99024;  
 XX  
 XX 23-AUG-2002 (first entry)  
 DT  
 XX Human Protein C zymogen protein mutant K218N/J220T.  
 DE  
 XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
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 OS Synthetic.  
 FH  
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 XX WO200232461-A2.  
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 XX 25-APR-2002.  
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 XX 18-OCT-2000; 2000DK-00001560.  
 XX 18-OCT-2000; 2000US-0242268P.  
 XX 21-JUN-2001; 2001DK-00000970.  
 XX 21-JUN-2001; 2001US-0300154P.  
 XX  
 XX (MAXY-) MAXYGEN APS.  
 XX (MAXY-) MAXYGEN HOLDINGS LTD.  
 PA  
 PA Andersen KV, Pedersen AH, Freaekgaard PO;  
 PI  
 XX WPI; 2002-489875/52.  
 DR  
 XX Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 XX Claim 9; Page; 92pp; English.  
 PS  
 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life of the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and

CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX

Sequence 419 AA;

Query Match 99.6%; Score 2314; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1.4e-142;  
 Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 ANSFLERLRSSLERECIEICDEEAKELFQVNDOTLAFMSKVVDGQCLVLEHPCA 60  
 DB 1 ANSFLERLRSSLERECIEICDEEAKELFQVNDOTLAFMSKVVDGQCLVLEHPCA 60  
 QY 61 SLCCGHCITCDIGISGSCDCRSWGEGFRCOREYSPFANCSLNGCCTHYCLEBVGRRCSG 120  
 DB 61 SLCCGHCITCDIGISGSCDCRSWGEGFRCOREYSPFANCSLNGCCTHYCLEBVGRRCSG 120  
 QY 121 APGYLGGDILLQCPAIVPCGRRPKMKMKESHKRDTEDEQVDPRLIDGKATRRGD 180  
 DB 121 APGYLGGDILLQCPAIVPCGRRPKMKMKESHKRDTEDEQVDPRLIDGKATRRGD 180  
 QY 181 SPWQVVLIDSKKKLACGAVLTLPSPWVLTAAHCHMDSSKNLTVRAGEYDLRMRKMLDLDI 240  
 DB 181 SPWQVVLIDSKKKLACGAVLTLPSPWVLTAAHCHMDSSKNLTVRAGEYDLRMRKMLDLDI 240  
 QY 241 KEVFVHPNYSKSTTDNDIALHLAQPATLSQITVPICLPDSGAERLQAQGLTLYTGW 300  
 DB 241 KEVFVHPNYSKSTTDNDIALHLAQPATLSQITVPICLPDSGAERLQAQGLTLYTGW 300  
 QY 301 GYHSSREKAKRNKRFVTLNFIKIPVPHNECEVMSNNVSNMTCAGTIGDRQACEDGS 360  
 DB 301 GYHSSREKAKRNKRFVTLNFIKIPVPHNECEVMSNNVSNMTCAGTIGDRQACEDGS 360  
 QY 361 GGPVVASFHGFWLVGLVSMGEGGGLHNVGYTVYSRYLTMHGHTRPKAPQKSNAP 419  
 DB 361 GGPVVASFHGFWLVGLVSMGEGGGLHNVGYTVYSRYLTMHGHTRPKAPQKSNAP 419

RESULT 77  
 AAU99053

ID AAU99053 standard; protein, 419 AA.

AC AAU99053;

DT 23-AUG-2002 (first entry)

DE Human Protein C zymogen protein mutant R306N/K308S.

XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX



	CC	the conjugate has an extended plasma life. The gene for protein C is located on chromosome 2q13-q14. The present sequence represents a zymogen CC protein C variant of the invention. Note: The present sequence is not shown in the specification but was created by the indexer using the CC protein C sequence appearing as AAU99002 and the information in claim 9 XX
SQ	Sequence 419 AA:	
Query Match	99.6%; Score 2314; DB 5;	Length 419;
Best Local Similarity	99.5%; Pred. NO. 1.4e-142;	
Matches 417;	Conservative 0;	Mismatches 2; Indels 0; Gaps 0
QY	1 ANSFLEELHSHSLRECEIEICDPFEAKEIFQVNDPTLAFMSKAVDGDCTVLPLEHPCA	60
Dd	1 ANSFLEELHSHSLRECEIEICDPFEAKEIFQVNDPTLAFMSKAVDGDCTVLPLEHPCA	60
QY	61 SLCCGGTCTTGIGISFSCDCRSRWGRCRCPREVSPFNCSLDNGCTHYCLEBYGWRRCS	120
Dd	61 SLCCGGTCTTGIGISFSCDCRSRWGRCRCPREVSPFNCSLDNGCTHYCLEBYGWRRCS	120
QY	121 APGKLGDDLLQCIPAPAKPFCGRPKMKMEKKRSHLRKDPEDEQDVPRLLDGKTRRGD	180
Dd	121 APGKLGDDLLQCIPAPAKPFCGRPKMKMEKKRSHLRKDPEDEQDVPRLLDGKTRRGD	180
QY	181 SPWQVVILDSKKKLACAGVLIHPSVLTAAHCWDSESKILLVLIGEYDRMRKEWELD	240
Dd	181 SPWQVVILDSKKKLACAGVLIHPSVLTAAHCWDSESKILLVLIGEYDRMRKEWELD	240
QY	241 KEVFVHPNYSKTNDNIALHLAQPATLSOTVPLCLPDSGLAERINAOQETLVYWG	300
Dd	241 KEVFVHPNYSKTNDNIALHLAQPATLSOTVPLCLPDSGLAERINAOQETLVYWG	300
QY	301 GHSSSREKEAKRNRTFYLANFIKI PVPVHNCESEWMSNMNSNNMLCAGILGRQDACEDS	360
Dd	301 GHSSSREKEAKRNRTFYLANFIKI PVPVHNCESEWMSNMNSNNMLCAGILGRQDACEDS	360
QY	361 GGPMVASHEGTWFVGLVSWKGCGCLANTGVTTKSRYLMTHTGIRIDKCAPQKSNAP	419
Dd	361 GGPMVASHEGTWFVGLVSWKGCGCLANTGVTTKSRYLMTHTGIRIDKCAPQKSNAP	419
RESULT 78		
AAU99059	standard; protein; 419 AA.	
XX AC	AAU99059;	
XX DT	23-AUG-2002 (first entry)	
XX DE	Human Protein C zymogen protein mutant E309N/K311S.	
KM KM	Human; Protein C; N-glycosylation; APC; activated protein C; zymogen; serum half-life; chromosome 2q13-q14; stroke; myocardial infarction; after venous thrombosis; disseminated intravascular coagulation; DIC; sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy; bone marrow transplantation; major surgery; trauma; ARDS; coagulant; adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.	
XX OS	Homo sapiens.	
OS OS	synthetic.	
XX FH	Key	Location/Qualifiers
FH FT	Protein	1..155
FT FT	Peptide	/label= light_chain
FT FT	Protein	/label= heavy_chain
FT FT	Peptide	/label= Heavy_chain
FT FT	Misc-difference	309 /label= Activation_peptide
FT FT	Misc-difference	311 /note= "Wild-type Glu substituted by Asn"



XX Andersen KV, Pedersen AH, Friesgaard PO;  
 XX WPI; 2002-489875/52.  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 XX Claim 9; Page; 92pp; English.

CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (p) where (p) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe166Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the anti-inflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX

Sequence 419 AA:

Query Match 99.6%; Score 2314; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1.4e-142;  
 Matches 417; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLHEHSHSIRECEIEICPEBAKEITQNDTTLAFNSKHYVDGQCLVPLHPCA 60  
 Db 1 ANSFLHEHSHSIRECEIEICPEBAKEITQNDTTLAFNSKHYVDGQCLVPLHPCA 60  
 QY 61 SLCCGHGTCIDIGISFSCDRCRSGMEGRFCOREVFNLSGNDGCTHVCLEEVGMRCSC 120  
 Db 61 SLCCGHGTCIDIGISFSCDRCRSGMEGRFCOREVFNLSGNDGCTHVCLEEVGMRCSC 120  
 QY 121 APGYKGGDLQCHPAVKPFCGRPWKMEKRSKSLKEDTEDQEDVDPRLLDKMRKRD 180  
 Db 121 APGYKGGDLQCHPAVKPFCGRPWKMEKRSKSLKEDTEDQEDVDPRLLDKMRKRD 180  
 QY 181 SPWQVLLDSKKKACAVLIHPSWTLTAACMBESKLIYVGLGYDIRMEKMEEDLDI 240  
 Db 181 SPWQVLLDSKKKACAVLIHPSWTLTAACMBESKLIYVGLGYDIRMEKMEEDLDI 240  
 QY 241 KEVFNPNVSKSTNDNDIALHIAQPATLSQTIYVCLPDSGLARELNQAGETLVTCM 300

Db 241 KEVFNPNVSKSTNDNDIALHIAQPATLSQTIYVCLPDSGLARELNQAGETLVTCM 300  
 QY 301 GYHSSREKAKENRTFVNLFIKIPVPHNEGSEVSNMSENNLCAGLIGRODACEGDS 360  
 Db 301 GYHSSREKAKENRTFVNLFIKIPVPHNEGSEVSNMSENNLCAGLIGRODACEGDS 360  
 QY 361 GSPWVASFHGTWFLVGLVSWGEGCLLHNYGYTKRSRYLDMTHGHITDPAPOKSWAP 419  
 Db 361 GSPWVASFHGTWFLVGLVSWGEGCLLHNYGYTKRSRYLDMTHGHITDPAPOKSWAP 419

RESULT 80  
 AAU99003  
 ID AAU99003 standard; protein. 419 AA.  
 AC AAU99003;  
 DT 23-AUG-2002 (first entry)  
 XX  
 DE Human Protein C zymogen protein mutant D172N/K174S.  
 XX  
 KM Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KM serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KM after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KM sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KM bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KM adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 FH Key  
 FH Protein  
 FT Location/Qualifiers  
 FT 1..155  
 FT /label= Light\_chain  
 FT Peptide  
 FT 156..157  
 FT /label= Lys\_Arg\_dipeptide  
 FT Protein  
 FT 158..419  
 FT /label= Heavy\_chain  
 FT Peptide  
 FT 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 172  
 FT /note= "Wild-type Asp substituted by Asn"  
 FT FT  
 FT Misc-difference 174  
 FT /note= "Wild-type Lys substituted by Ser"  
 FT FT  
 PN MO20022461-72.  
 XX  
 PD 25-APR-2002.  
 XX  
 PF 15-OCT-2001; 2001WO-DK000679.  
 XX  
 PR 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-UTN-2001; 2001DK-00000970.  
 ER 21-UTN-2001; 2001US-0300154P.  
 XX  
 XX (MAXX-) MAXYGEN APS.  
 PA (MAXX-) MAXYGEN HOLDINGS LTD.  
 PA PA  
 PA PA  
 XX  
 XX Andersen KV, Pedersen AH, Friesgaard PO;  
 XX WPI; 2002-489875/52.  
 DR  
 XX Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 XX Claim 9; Page; 92pp; English.  
 XX  
 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one



CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 XX Sequence 419 AA:

Query Match 99.5%; Score 2313; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1,66-142;  
 Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSFLEELRHSLSRECEIEICDFEAKELFQVNDTLAFMSKVIDDQCLVLPFHPCA 60  
 Db 1 ANSFLEELRHSLSRECEIEICDFEAKELFQVNDTLAFMSKVIDDQCLVLPFHPCA 60  
 QY 61 SLCGCHGTCIDIGISFSCDCRSRGWGRFCOREVSEFLNDSGCTHYCLEBVGRRSC 120  
 Db 61 SLCGCHGTCIDIGISFSCDCRSRGWGRFCOREVSEFLNDSGCTHYCLEBVGRRSC 120  
 QY 121 APGYLGDLDLQCHPAKPCPCPKMEKESGHLKPDTEOEQVNDPRLIDGKTRRGD 180  
 Db 121 APGYLGDLDLQCHPAKPCPCPKMEKESGHLKPDTEOEQVNDPRLIDGKTRRGD 180  
 QY 181 SPWQVVLINSTKXKLAGAVLIHPISWVLTAAHCDSESKLVLRLGEYDLRMEKWLIDI 240  
 Db 181 SPWQVVLINSTKXKLAGAVLIHPISWVLTAAHCDSESKLVLRLGEYDLRMEKWLIDI 240  
 QY 241 KEVFHEPVSKSTTNDIALHLAQPATLSQTVPLCPDGLAEKRLNDAQOETLVYGM 300  
 Db 241 KEVFHEPVSKSTTNDIALHLAQPATLSQTVPLCPDGLAEKRLNDAQOETLVYGM 300  
 QY 301 GHSSREKEAKRRTFVLFKIPVPHNECSFVSNVSNMCAGIIIGDRQACGSDS 360  
 Db 301 GHSSREKEAKRRTFVLFKIPVPHNECSFVSNVSNMCAGIIIGDRQACGSDS 360  
 QY 361 GGPVVASFHGTWFLVGLVSWGCGLLHANYGYTVKSYRLDWIHGIRDEKAPQKSWAP 419  
 Db 361 GGPVVASFHGTWFLVGLVSWGCGLLHANYGYTVKSYRLDWIHGIRDEKAPQKSWAP 419

RESULT 82  
 AAU99018  
 ID AAU99018 standard; protein; 419 AA.

AAU99018;

23-AUG-2002 (first entry)

Human Protein C zymogen protein mutant E215N/K217N.

XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burns; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 XX Homo sapiens.  
 OS Synthetic.

XX Key Location/Qualifiers  
 FH Protein 1..155  
 FT /label= light\_chain  
 FT Peptide 156..157  
 FT Protein /label= Lys\_Arg\_dipeptide  
 FT /label= Heavy\_chain  
 FT Peptide 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 215  
 FT /note= "Wild-type Gln substituted by Asn"  
 FT Misc-difference 217  
 FT /note= "Wild-type Lys substituted by Thr"

XX WO200232461-A2.  
 XX 25-APR-2002.  
 XX 15-OCT-2001, 2001MO-DK00679.  
 XX 18-OCT-2000, 2000DK-00001560.  
 XX 18-OCT-2000, 2000US-0242682.  
 XX 21-JUN-2001, 2001DK-00003970.  
 XX 21-JUN-2001, 2001US-0300154P.  
 XX (MAXY-) MAXYGEN APS  
 XX (MAXY-) MAXYGEN HOLDINGS LTD.  
 XX Andersen KV, Pedersen AH, Freskgaard PO,  
 XX WPI, 2002-489875/52.

PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 XX Claim 9; Page; 92pp; English.

XX The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (I) a variant (IV) or (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (W2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen

CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 SO Sequence 419 AA;

Query Match 99.5%; Score 2313; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1,6e-142;  
 Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 ANSFLERHRSLSERECIEICDPEEAKETPQVNDTLAFMSKRVGDDQCLVPLEHPCA 60  
 DB 1 ANSFLERHRSLSERECIEICDPEEAKETPQVNDTLAFMSKRVGDDQCLVPLEHPCA 60  
 QY 61 SLCCGHTCTIDIGISFSCDCRSWGEGFPCQREVSFLNCSLDNGGCTHYCLEBVGRRCSG 120  
 DB 61 SLCCGHTCTIDIGISFSCDCRSWGEGFPCQREVSFLNCSLDNGGCTHYCLEBVGRRCSG 120  
 QY 121 APGYKGGDLQCHPAVPCGPRFWRMEKKSILKRDTEDDQVDPRLIDGMTRGD 180  
 DB 121 APGYKGGDLQCHPAVPCGPRFWRMEKKSILKRDTEDDQVDPRLIDGMTRGD 180  
 QY 181 SPQVVLDSKKKACGAVLTHPSWLTAAHOMDSKKLVRLGEYDLRRMEKELDDI 240  
 DB 181 SPQVVLDSKKKACGAVLTHPSWLTAAHOMDSKKLVRLGEYDLRRMEKELDDI 240  
 QY 241 KEVEHBNYSKSTTNDIALHIAOPATLSQTIIVICLPDSGLAEERLNQAGETLVYGM 300  
 DB 241 KEVEHBNYSKSTTNDIALHIAOPATLSQTIIVICLPDSGLAEERLNQAGETLVYGM 300  
 QY 301 GHSSREKAKRNRFVNLFIKIPVPHNECEVSNVSENNLCAGILGDRDAGCGDS 360  
 DB 301 GHSSREKAKRNRFVNLFIKIPVPHNECEVSNVSENNLCAGILGDRDAGCGDS 360  
 QY 361 GGPWVASFHGTWELVGLVMSGEGGILHNYGYTVYSKYLDTFHGIRPKKAPKXAP 419  
 DB 361 GGPWVASFHGTWELVGLVMSGEGGILHNYGYTVYSKYLDTFHGIRPKKAPKXAP 419

# RESULT 83

AAU99037 ID AAU99037 standard; protein, 419 AA.

AAU99037;

23-AUG-2002 (first entry)

Human Protein C zymogen protein mutant T253N/D255S.

Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 after venous thrombosis; disseminated intravascular coagulation; DIC;  
 sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.

Homo sapiens.  
 Synthetic.

Key Location/Qualifiers

Protein 1..155

Peptide 156..157

Protein 158..419

Peptide 158..419

Misc-difference 253

Misc-difference 255

FT /note= "Wild-type Thr substituted by Asn"  
 FT /note= "Wild-type Asp substituted by Ser"

PN W0200232461-A2.

XX 25-APR-2002.

PF 15-OCT-2001; 2001WO-DK000679.

PR 18-OCT-2000; 2000DK-00001560.

PR 18-OCT-2000; 2000US-0242268P.

PR 21-JUN-2001; 2001DK-00000970.

PR 21-JUN-2001; 2001US-0300154P.

XX (MAXY-) MAXYGEN APS.

PA (MAXY-) MAXYGEN HOLDINGS LTD.

PA Andersen KV, Pedersen AH, Freshgaard PO,

DR WPI; 2002-489675/52.

PT Novel conjugate useful for treating or preventing septic shock, stroke

PT and myocardial infarction, comprises non-polypeptide group covalently

PT attached to protein C polypeptide comprising an attachment group.

PS Claim 9; Page; 92pp; English.

XX The invention relates to a conjugate (I) comprising at least one non-

XX polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to

XX a protein C polypeptide comprising an amino acid sequence which differs

XX from that of a parent protein C polypeptide (III) in at least one

XX introduced and/or at least one removed amino acid residue comprising an

XX attachment group for the non-polypeptide group (e.g. an N-glycosylation

XX site). Also included are (1) a variant (IV) of (III) comprising a

XX substitution in a position (P) where (P) is an amino acid with at least

XX 25% of its side group exposed to the surface, with the proviso that the

XX substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,

XX Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/

XX His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding

XX (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)

XX comprising (V) or (VI); (5) increasing (W2) the functional in vivo half-

XX life or the serum half-life of a parent protein C polypeptide. The

XX conjugates, variants and protein C proteins are useful as medicaments,

XX and in the manufacture of medicaments for the treatment (and

XX diagnosis/prevention) of stroke, myocardial infarction, after venous

XX thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic

XX shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow

XX transplantation, burns, pregnancy, major surgery/trauma or adult

XX respiratory distress syndrome (ARDS). The variant protein C has an

XX increased resistance to activation by e.g. human plasma and alpha-1

XX antitrypsin. The conjugates have an increased in vivo half-life,

CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 SO Sequence 419 AA;

Query Match 99.5%; Score 2313; DB 5; Length 419;

Best Local Similarity 99.5%; Pred. No. 1,6e-142;  
 Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 ANSFLERHRSLSERECIEICDPEEAKETPQVNDTLAFMSKRVGDDQCLVPLEHPCA 60

DB 1 ANSFLERHRSLSERECIEICDPEEAKETPQVNDTLAFMSKRVGDDQCLVPLEHPCA 60

QY 61 SLCCGHTCTIDIGISFSCDCRSWGEGFPCQREVSFLNCSLDNGGCTHYCLEBVGRRCSG 120

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Db      61 SLCCGHGTCIDIGISFSCDCRSQSGEGRFCQREVSFLNCSLDNGCTHCLCEVGMRRSC 120
QY      121 APGYKIGDDLQCHPAVFPCCGPMKRMKRRSHLKRDTEDEDDVDPRLLIDKMTRRGD 180
Db      121 APGYKIGDDLQCHPAVFPCCGPMKRMKRRSHLKRDTEDEDDVDPRLLIDKMTRRGD 180
QY      181 SPQVVLDSKKKLACGAVLIHPSWVLTAAHOMESKLLVRLGEYDRLRMEKWEELDDI 240
Db      181 SPQVVLDSKKKLACGAVLIHPSWVLTAAHOMESKLLVRLGEYDRLRMEKWEELDDI 240
QY      241 KEVFEHNYSKSTTNDIALHLAQPATLSQTIIVICLPDPSGLAEELNOAGQETLVGM 300
Db      241 KEVFEHNYSKSTTNDIALHLAQPATLSQTIIVICLPDPSGLAEELNOAGQETLVGM 300
QY      301 GHSSREKAKRNTFPLNFIKIPVPHNECSVMNWMSEMLCAGILDRDQACEGDS 360
Db      301 GHSSREKAKRNTFPLNFIKIPVPHNECSVMNWMSEMLCAGILDRDQACEGDS 360
QY      361 GCPMVASFHGTWFLVGLVSGEGCGLHNYSVYTKYSRYLDMIGHIRDXEAPQKSMAP 419
Db      361 GCPMVASFHGTWFLVGLVSGEGCGLHNYSVYTKYSRYLDMIGHIRDXEAPQKSMAP 419

RESULT 84
AAU99063
ID      AAU99063 standard; protein; 419 AA.
XX
AC      AAU99063;
XX
DT      23-AUG-2002 (first entry)
XX
DE      Human Protein C zymogen protein mutant R312N/R314S.
XX
KW      Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;
KW      serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;
KW      after venous thrombosis; disseminated intravascular coagulation; DIC;
KW      sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;
KW      bone marrow transplantation; major surgery; trauma; AIDS; coagulant;
KW      adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutain.
XX
OS      Homo sapiens.
XX
SX      Synthetic.
XX
FH      Key
FT      Location/Qualifiers
FT      1..155
FT      /label= light_chain
FT      Peptide
FT      156..157
FT      /label= Lys_Arg_dipeptide
FT      Protein
FT      158..419
FT      /label= Heavy_chain
FT      Peptide
FT      158..169
FT      /label= Activation_peptide
FT      Misc-difference
FT      312
FT      /note= "Wild-type Arg substituted by Asn"
FT      Misc-difference
FT      314
FT      /note= "Wild-type Arg substituted by Ser"
XX
PN      WO200232461-A2.
XX
PD      25-APR-2002.
XX
PF      15-OCT-2001; 2001WO-DK000679.
XX
PR      18-OCT-2000; 2000DK-00001560.
PR      18-OCT-2000; 2000US-0242268P.
PR      21-JUN-2001; 2001DK-00000970.
PR      21-JUN-2001; 2001US-0300154P.
XX
PA      (MAXY-) MAXYGEN AFS.
PA      (MAXY-) MAXYGEN HOLDINGS LTD.
XX
PI      Andersen KV, Pedersen AH, Friesgaard PO;

```

XX MPI; 2002-469875/52.

XX Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.

XX Claim 9; Page; 92pp; English.

CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (p) where (p) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (W2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life.  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9

XX Sequence 419 AA;

XX Query Match 99.5%; Score 2313; DB 5; Length 419;

XX Best Local Similarity 99.5%; Pred. No. 1.6e-142;  
 XX Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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QY      1 ANSLFELRHSLSIERECIEICDFEBAKIFPQNDVDTLAWSRHNDGQCVTLPLRPPCA 60
Db      1 ANSLFELRHSLSIERECIEICDFEBAKIFPQNDVDTLAWSRHNDGQCVTLPLRPPCA 60
QY      61 SLCCGHGTCIDIGISFSCDCRSQSGEGRFCQREVSFLNCSLDNGCTHCLCEVGMRRSC 120
Db      61 SLCCGHGTCIDIGISFSCDCRSQSGEGRFCQREVSFLNCSLDNGCTHCLCEVGMRRSC 120
QY      121 APGYKIGDDLQCHPAVFPCCGPMKRMKRRSHLKRDTEDEDDVDPRLLIDKMTRRGD 180
Db      121 APGYKIGDDLQCHPAVFPCCGPMKRMKRRSHLKRDTEDEDDVDPRLLIDKMTRRGD 180
QY      181 SPQVVLDSKKKLACGAVLIHPSWVLTAAHOMESKLLVRLGEYDRLRMEKWEELDDI 240
Db      181 SPQVVLDSKKKLACGAVLIHPSWVLTAAHOMESKLLVRLGEYDRLRMEKWEELDDI 240
QY      241 KEVFEHNYSKSTTNDIALHLAQPATLSQTIIVICLPDPSGLAEELNOAGQETLVGM 300
Db      241 KEVFEHNYSKSTTNDIALHLAQPATLSQTIIVICLPDPSGLAEELNOAGQETLVGM 300

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QY 301 GYHSSREKAKNRRTFVNFPIKIPVPHNECEWMSNMVSENMLCAGILGRDQACGDS 360  
DB 301 GYHSSREKAKNRRTFVNFPIKIPVPHNECEWMSNMVSENMLCAGILGRDQACGDS 360  
QY 361 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGVYTVSRYLDMTHGIRDPKAPQKSNAP 419  
DB 361 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGVYTVSRYLDMTHGIRDPKAPQKSNAP 419  
RESULT 85  
ID AAU99083 standard; protein, 419 AA.  
AC AAU99083;  
DT 23-AUG-2002 (first entry)  
DE Human Protein C zymogen protein mutant R352N/D354S.  
XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
XX serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
XX after venous thrombosis; disseminated intravascular coagulation; DIC;  
XX sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
XX bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
XX adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
XX Homo sapiens.  
XX Synthetic.  
FH Key Location/Qualifiers  
FT Protein 1..155  
FT Peptide /label= Light\_chain  
FT Peptide 156..157  
FT Protein /label= Lys\_Arg\_dipeptide  
FT Peptide /label= Heavy\_chain  
FT Peptide 158..169  
FT Misc-difference 352 /label= Activation\_peptide  
FT /note= "Wild-type Arg substituted by Asn"  
FT Misc-difference 354 /note= "Wild-type Asp substituted by Ser"  
FT /note= "Wild-type Asp substituted by Ser"  
PN WO200232461-A2.  
PD 25-APR-2002.  
XX 15-OCT-2001; 2001WO-DK000679.  
XX 18-OCT-2000; 2000DK-00001560.  
XX 18-OCT-2000; 2000US-0242268P.  
XX 21-JUN-2001; 2001DK-00000970.  
XX 21-JUN-2001; 2001US-0300154P.  
XX (MAXY-) MAXYGEN APS.  
XX (MAXY-) MAXYGEN HOLDINGS LTD.  
PI Andersen KV, Pedersen AH, Friesgaard PO;  
XX MPI; 2002-489875/52.  
XX Novel conjugate useful for treating or preventing septic shock, stroke  
XX and myocardial infarction, comprises non-polypeptide group covalently  
XX attached to protein C polypeptide comprising an attachment group.  
XX Claim 9, Page; 92pp; English.  
XX The invention relates to a conjugate (I) comprising at least one non-  
XX polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
XX a protein C polypeptide comprising an amino acid sequence which differs  
XX from that of a parent protein C polypeptide (III) in at least one  
XX introduced and/or at least one removed amino acid residue comprising an  
XX attachment group for the non-polypeptide group (e.g. an N-glycosylation

CC site). Also included are (1) a variant (IV) of (III) comprising a  
CC substitution in a position (P) where (P) is an amino acid with at least  
CC 25% of its side group exposed to the surface, with the proviso that the  
CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
CC Tyr302Ser/Ala/Thr/Lys/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
CC comprising (V) or (VI); (5) increasing (W2) the functional in vivo half-  
CC life or the serum half-life of a parent protein C polypeptide. The  
CC conjugates, variants and protein C proteins are useful as medicaments,  
CC and in the manufacture of medicaments for the treatment (and  
CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
CC transplantation, burns, pregnancy, major surgery/trauma or adult  
CC respiratory distress syndrome (ARDS). The variant protein C has an  
CC increased resistance to activation by e.g. human plasma and alpha-1  
CC antitrypsin. The conjugates have an increased in vivo half-life,  
CC increased serum half-life, increased resistance to inhibitors, reduced  
CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
CC The conjugate offers a number of advantages over the currently available  
CC APC products, including longer duration between injections. Moreover, a  
CC administration of less protein, and fewer side effects. Moreover, a  
CC reduced anticoagulant activity is beneficial to reduce the risk of  
CC bleeding while maintaining the antiinflammatory activity of APC  
CC (activated protein C) conjugates. This must be especially important when  
CC the conjugate has an extended plasma life. The gene for protein C is  
CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
CC protein C variant of the invention. Note: The present sequence is not  
CC shown in the specification but was created by the indexer using the  
CC protein C sequence appearing as AAU99002 and the information in claim 9  
SQ Sequence 419 AA;  
Query Match 99.5%; Score 2313; DB 5; Length 419;  
Best local similarity 99.5%; Pred. No. 1.6e-142;  
Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
QY 1 ANSFLELRSSLRRECIETCDFEBAKEIFQVNDTLAFMSKVDQDQVLPLEHCA 60  
DB 1 ANSFLELRSSLRRECIETCDFEBAKEIFQVNDTLAFMSKVDQDQVLPLEHCA 60  
QY 61 SLCCGHTGCTIDGIGSFCDCRSWGEGFPCOREVSFLNCSLNGGCTHYCLEBYGMRGSC 120  
DB 61 SLCCGHTGCTIDGIGSFCDCRSWGEGFPCOREVSFLNCSLNGGCTHYCLEBYGMRGSC 120  
QY 121 APGYLGDPLLQCHPAVKEPCGRPMKMEKKRSHLKRTEDQEDQVDPRLDGKMTREGD 180  
DB 121 APGYLGDPLLQCHPAVKEPCGRPMKMEKKRSHLKRTEDQEDQVDPRLDGKMTREGD 180  
QY 181 SFQVYVLLDSKKKLAGAVLTHPSWVTLTAHCHDSKKLRLRLEHYLRMEKWEILD 240  
DB 181 SFQVYVLLDSKKKLAGAVLTHPSWVTLTAHCHDSKKLRLRLEHYLRMEKWEILD 240  
QY 241 KEVFVHPVYSKTTDNDLALHQAQATLSQTTVPICLPDGSGLARELDAQOGETLVTWG 300  
DB 241 KEVFVHPVYSKTTDNDLALHQAQATLSQTTVPICLPDGSGLARELDAQOGETLVTWG 300  
QY 301 GYHSSREKAKNRRTFVNFPIKIPVPHNECEWMSNMVSENMLCAGILGRDQACGDS 360  
DB 301 GYHSSREKAKNRRTFVNFPIKIPVPHNECEWMSNMVSENMLCAGILGRDQACGDS 360  
QY 361 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGVYTVSRYLDMTHGIRDPKAPQKSNAP 419  
DB 361 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGVYTVSRYLDMTHGIRDPKAPQKSNAP 419  
RESULT 86  
ID AAU99021 standard; protein, 419 AA.  
AC AAU99021;  
XX



DT 23-AUG-2002 (first entry)

XX Human Protein C zymogen protein mutant K217N/L219S.

DE Human Protein C zymogen protein mutant K217N/L219S.

XX Human: Protein C; N-glycosylation; APC; activated protein C; zymogen;

KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;

KW after venous thrombosis; disseminated intravascular coagulation; DIC;

KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;

KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;

XX adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.

OS Homo sapiens.

OS Synthetic.

XX Key

FT Location/Qualifiers

FT 1..155

FT /label= light\_chain

FT Peptide

FT 156..157

FT /label= Lys\_Arg\_dipeptide

FT Protein

FT 158..419

FT /label= Heavy\_chain

FT Peptide

FT 158..169

FT /label= Activation\_peptide

FT Misc-difference 217

FT /note= "Wild-type Lys substituted by Asn"

FT Misc-difference 219

FT /note= "Wild-type Ieu substituted by Ser"

XX MO200232461-A2.

XX 25-APR-2002.

PF 15-OCT-2001; 2001WO-DK00679.

XX 18-OCT-2000; 2000DK-00001560.

PR 18-OCT-2000; 2000US-0242268P.

PR 21-JUN-2001; 2001DK-00009970.

PR 21-JUN-2001; 2001US-0300154P.

XX (MAXY-) MAXYGEN APS.

PA (MAXY-) MAXYGEN HOLDINGS LTD.

PA Andersen KV, Pedersen AH, Freskgaard PO;

PI WPI; 2002-489875/52.

XX Novel conjugate useful for treating or preventing septic shock, stroke

PT and myocardial infarction, comprises non-polypeptide group covalently

PT attached to protein C polypeptide comprising an attachment group.

XX Claim 9; Page; 92pp; English.

XX The invention relates to a conjugate (I) comprising at least one non-

CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to

CC a protein C polypeptide comprising an amino acid sequence which differs

CC from that of a parent protein C polypeptide (III) in at least one

CC introduced and/or at least one removed amino acid residue comprising an

CC attachment group for the non-polypeptide group (e.g. an N-glycosylation

CC site). Also included are (1) a variant (IV) of (III) comprising a

CC substitution in a position (P) where (P) is an amino acid with at least

CC 25% of its side group exposed to the surface, with the proviso that the

CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,

CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe16Ser/Ala/Thr/

CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding

CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)

CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-

CC life of the serum half-life of a parent protein C polypeptide. The

CC conjugates, variants and protein C proteins are useful as medicaments,

CC and in the manufacture of medicaments for the treatment (and

CC diagnosis/prevention) of stroke, myocardial infarction, after venous

CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic

CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow

CC transplantation, burns, pregnancy, major surgery/trauma or adult

CC respiratory distress syndrome (ARDS). The variant protein C has an

CC increased resistance to activation by e.g. human plasma and alpha-1

CC antitrypsin. The conjugates have an increased in vivo half-life,

CC increased serum half-life, increased resistance to inhibitors, reduced

CC renal clearance, reduced immunogenicity and/or increased bioavailability.

CC The conjugate offers a number of advantages over the currently available

CC APC products, including longer duration between injections,

CC administration of less protein, and fewer side effects. Moreover, a

CC reduced anticoagulant activity is beneficial to reduce the risk of

CC bleeding while maintaining the antithrombotic activity of APC

CC (activated protein C) conjugates. This must be especially important when

CC the conjugate has an extended plasma life. The gene for protein C is

CC located on chromosome 2q13-q14. The present sequence represents a zymogen

CC protein C variant of the invention. Note: The present sequence is not

CC shown in the specification but was created by the indexer using the

CC protein C sequence appearing as AAU99002 and the information in claim 9

XX

XX Sequence 419 AA;

Query Match 99.5%; Score 2313; DB 5; Length 419;

Best Local Similarity 99.5%; Pred. No. 1,66-142;

Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 ANSFLEELHSHSLRECEIEICDPFEANEIFQNVDTLAFMKSHVDGQCLVPLEHPCA 60

DB 1 ANSFLEELHSHSLRECEIEICDPFEANEIFQNVDTLAFMKSHVDGQCLVPLEHPCA 60

QY 61 SLCCGHTCTIGISFSCDRSGMGRFCQREVSFLNCSLDNGSCTHCLAEVGMRRCSG 120

DB 61 SLCCGHTCTIGISFSCDRSGMGRFCQREVSFLNCSLDNGSCTHCLAEVGMRRCSG 120

QY 121 APGYKLGDLLQCHPAKFPQGRPMKMEKRSHTLKADTEDQDQVDPRLIDGKMTRRSD 180

DB 121 APGYKLGDLLQCHPAKFPQGRPMKMEKRSHTLKADTEDQDQVDPRLIDGKMTRRSD 180

QY 121 APGYKLGDLLQCHPAKFPQGRPMKMEKRSHTLKADTEDQDQVDPRLIDGKMTRRSD 180

DB 121 APGYKLGDLLQCHPAKFPQGRPMKMEKRSHTLKADTEDQDQVDPRLIDGKMTRRSD 180

QY 181 SPQWVILDSKKKACAAVLIHPSWTLPAQCMDESKSLVRLGYDIRMEKEMLDLDI 240

DB 181 SPQWVILDSKKKACAAVLIHPSWTLPAQCMDESKSLVRLGYDIRMEKEMLDLDI 240

QY 241 KEVFEHPNYSSTTDNDIALHLAQPATLSQTIYPICLPDSGLARELNQAGQETLVYGM 300

DB 241 KEVFEHPNYSSTTDNDIALHLAQPATLSQTIYPICLPDSGLARELNQAGQETLVYGM 300

QY 301 GYHSSEKEKAKNRTPVLFNFIKIPVPNECESEVMNSMMNLCAGLIGRQDACEGDS 360

DB 301 GYHSSEKEKAKNRTPVLFNFIKIPVPNECESEVMNSMMNLCAGLIGRQDACEGDS 360

QY 361 GGPVWASFFHGTWFLVGLVSWGSGGLNHYGVYTKYSRYLDWIGHIRDKKAPQKSWAP 419

DB 361 GGPVWASFFHGTWFLVGLVSWGSGGLNHYGVYTKYSRYLDWIGHIRDKKAPQKSWAP 419

RESULT 87

AAU99004

ID AAU99004 standard; protein; 419 AA.

AC AAU99004;

XX 23-AUG-2002 (first entry)

XX Human Protein C zymogen protein mutant D172N/K174T.

DE Human: Protein C; N-glycosylation; APC; activated protein C; zymogen;

KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;

KW after venous thrombosis; disseminated intravascular coagulation; DIC;

KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;

KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;

XX adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.

OS Homo sapiens.

OS Synthetic.

XX Key Location/Qualifiers

FT Protein 1..155  
 FT /label= Light\_chain  
 FT Peptide 156..157  
 FT /label= Lys\_Arg\_dipeptide  
 FT Protein 158..419  
 FT /label= Heavy\_chain  
 FT Peptide 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 172  
 FT /note= "Wild-type Asp substituted by Asn"  
 FT /note= "Wild-type Lys substituted by Thr"  
 FT  
 PN WO200232461-A2.  
 XX  
 PD 25-APR-2002.  
 XX  
 PE 15-OCT-2001; 2001MO-DK000679.  
 XX  
 PR 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN AES.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 PI Andersen KV, Pedersen AH, Freaekgaard PO;  
 DR WPI, 2002-489875/52.  
 XX  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 PS Claim 9; Page; 92pp; English.  
 CC  
 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life of the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment and  
 CC diagnosis/prevention of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the

CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 SQ Sequence 419 AA;  
 Query Match 99.5%; Score 2313; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. Loc. 1.6e-142;  
 Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;  
 QY 1 ANSTLELRHSSLERECIEICDPEEAKETPONDVDTLAFTWSGVVDGQCYLPLEHPCA 60  
 DB 1 ANSTLELRHSSLERECIEICDPEEAKETPONDVDTLAFTWSGVVDGQCYLPLEHPCA 60  
 QY 61 SLCCGHTCTCIDIGSFSCDCRSGMEGRFCQREVSFLNCSLDNGCHYGLTEVGMRRCSG 120  
 DB 61 SLCCGHTCTCIDIGSFSCDCRSGMEGRFCQREVSFLNCSLDNGCHYGLTEVGMRRCSG 120  
 QY 121 APGYKGGDDLLQCHPAVFPQGRPMKMEKRSKSLKQDTEQDQDVPRLINGMTTRGD 180  
 DB 121 APGYKGGDDLLQCHPAVFPQGRPMKMEKRSKSLKQDTEQDQDVPRLINGMTTRGD 180  
 QY 181 SPWQVVLDSKKKLAAGVLIHPSWVLTAAQCMDSKKLLVRLGEYDLRMEKELDLDT 240  
 DB 181 SPWQVVLDSKKKLAAGVLIHPSWVLTAAQCMDSKKLLVRLGEYDLRMEKELDLDT 240  
 QY 241 KEVFHNPYSKSTNDIALHLAOPATISQITVPICLPDSGLAEELNQAQETLVTWG 300  
 DB 241 KEVFHNPYSKSTNDIALHLAOPATISQITVPICLPDSGLAEELNQAQETLVTWG 300  
 QY 301 GYHSSREKAKNRTFVINFIKIPVPPHNECEVMSNMVSNMLCGILIGRQDACEGDS 360  
 DB 301 GYHSSREKAKNRTFVINFIKIPVPPHNECEVMSNMVSNMLCGILIGRQDACEGDS 360  
 QY 361 GSPWVASFHGMFLVGLVSWEGGGLHNYGYTKVSRVLDVHGHTRKPAQKSNAP 419  
 DB 361 GSPWVASFHGMFLVGLVSWEGGGLHNYGYTKVSRVLDVHGHTRKPAQKSNAP 419  
 XX  
 RESULT 88  
 AAU99041  
 ID AAU99041 standard; protein, 419 AA.  
 XX  
 AC AAU99041;  
 XX  
 DT 23-AUG-2002 (first entry)  
 XX  
 DE Human Protein C zymogen protein mutant D255N/D257S.  
 XX  
 KM Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KM serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KM after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KM sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KM bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KM adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 FH Key  
 FT Protein 1..155 Location/Qualifiers  
 FT /label= Light\_chain  
 FT Peptide 156..157  
 FT /label= Lys\_Arg\_dipeptide  
 FT Protein 158..419  
 FT /label= Heavy\_chain  
 FT Peptide 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 255  
 FT /note= "Wild-type Asp substituted by Asn"  
 FT /note= "Wild-type Lys substituted by Ser"  
 FT  
 PN WO200232461-A2.

PD 25-APR-2002.  
 XX 15-OCT-2001; 2001MO-DK000679.  
 PF 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 PI Andersen KV, Pedersen AH, Freskgaard PO;  
 DR WPI; 2002-489875/52.  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 PS Claim 9; Page; 92pp; English.  
 XX  
 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (I) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr303Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistant to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the anti-inflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AU99002 and the information in claim 9  
 XX  
 SQ Sequence 419 AA;  
 Query Match 99.5%; Score 2313; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1.6e-142;  
 Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 121 APGYKLDGDLQCHPAVKEPCGRPKWKEKRSHTLKRDTEDEQDVDPRLIDGKMTBRGD 180  
 Db 121 APGYKLDGDLQCHPAVKEPCGRPKWKEKRSHTLKRDTEDEQDVDPRLIDGKMTBRGD 180  
 QY 181 SPQVVLDSKKKIACAVLHPSWVLTAAHCDSESKLLVTLGYDLRREWEKMLDLDI 240  
 Db 181 SPQVVLDSKKKIACAVLHPSWVLTAAHCDSESKLLVTLGYDLRREWEKMLDLDI 240  
 QY 241 KEVFEHNSKSTTNDLIALHLAOPATLSQTVPLICLPDSEGLARELNQAGETLYTGM 300  
 Db 241 KEVFEHNSKSTTNNLSIALHLAOPATLSQTVPLICLPDSEGLARELNQAGETLYTGM 300  
 QY 301 GHSSREKARNTPTPLNFIKIPVPHNECSSEYMSNMVSENMLCAGILDRDADCEGS 360  
 Db 301 GHSSREKARNTPTPLNFIKIPVPHNECSSEYMSNMVSENMLCAGILDRDADCEGS 360  
 QY 361 GGMVVASFHGTWPLVGLVSWGECGLHNVGYTKVSRVLDVIRGHTRDKAPQKSMAP 419  
 Db 361 GGMVVASFHGTWPLVGLVSWGECGLHNVGYTKVSRVLDVIRGHTRDKAPQKSMAP 419  
 RESULT 89  
 AAU99064  
 ID AAU99064 standard; protein; 419 AA.  
 XX  
 AC AAU99064;  
 DT 23-AUG-2002 (first entry)  
 XX  
 DE Human Protein C zymogen protein mutant R312N/R314T.  
 XX  
 KM Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KM serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KM after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KM sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KM bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KM adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 FH Key Location/Qualifiers  
 FT Protein 1..155  
 FT Peptide /label= Light\_chain 156..157  
 FT Protein /label= Lys\_Arg\_dipeptide 158..419  
 FT Peptide /label= Heavy\_chain 158..169  
 FT Peptide /label= Activation\_peptide 158..169  
 FT Misc-difference 312 /note= "Wild-type Arg substituted by Asn"  
 FT Misc-difference 314 /note= "Wild-type Arg substituted by Thr"  
 PN MO200232461-A2.  
 XX  
 PD 25-APR-2002.  
 XX  
 PF 15-OCT-2001; 2001MO-DK000679.  
 PR 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 PI Andersen KV, Pedersen AH, Freskgaard PO;  
 DR WPI; 2002-489875/52.

XX Novel conjugate useful for treating or preventing septic shock, stroke  
PT and myocardial infarction, comprises non-polypeptide group covalently  
PT attached to protein C polypeptide comprising an attachment group.  
XX  
XX Claim 9; Page: 92pp; English.

XX The invention relates to a conjugate (I) comprising at least one non-  
CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
CC a protein C polypeptide comprising an amino acid sequence which differs  
CC from that of a parent protein C polypeptide (III) in at least one  
CC introduced and/or at least one removed amino acid residue comprising an  
CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
CC site). Also included are (1) a variant (IV) of (III) comprising a  
CC substitution in a position (P) where (P) is an amino acid with at least  
CC 25% of its side group exposed to the surface, with the proviso that the  
CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asp/Glu/Gly/Gln/  
CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
CC comprising (V) or (VI); (5) increasing (W2) the functional in vivo half-  
CC life or the serum half-life of a parent protein C polypeptide. The  
CC conjugates, variants and protein C proteins are useful as medicaments,  
CC and in the manufacture of medicaments for the treatment (and  
CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
CC transplantation, burns, pregnancy, major surgery/trauma or adult  
CC respiratory distress syndrome (ARDS). The variant protein C has an  
CC increased resistance to activation by e.g. human plasma and alpha-1  
CC antitrypsin. The conjugates have an increased in vivo half-life,  
CC increased serum half-life, increased resistance to inhibitors, reduced  
CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
CC The conjugate offers a number of advantages over the currently available  
CC APC products, including longer duration between injections,  
CC administration of less protein, and fewer side effects. Moreover, a  
CC reduced anticoagulant activity is beneficial to reduce the risk of  
CC bleeding while maintaining the antiinflammatory activity of APC  
CC (activated protein C) conjugates. This must be especially important when  
CC the conjugate has an extended plasma life. The gene for protein C is  
CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
CC protein C variant of the invention. Note: The present sequence is not  
CC shown in the specification but was created by the indexer using the  
CC protein C sequence appearing as AU99002 and the information in claim 9  
XX  
XX Sequence 419 AA;

Query Match 99.5%; Score 2313; DB 5; Length 419;  
Best Local Similarity 99.5%; Pred. No. 1.6e-142;  
Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 ANSFLEELRRSSLERECTEETCDPEEAKETFGVNDTLAFWSKRVGVGDCVTLPIEHPCA 60  
DB 1 ANSFLEELRRSSLERECTEETCDPEEAKETFGVNDTLAFWSKRVGVGDCVTLPIEHPCA 60  
QY 61 SLCCGHCCTCIDIGSFSCDCRSWGEGFCCQREVSFLNCSLDNGCTCHYCLAEVGRRCSC 120  
DB 61 SLCCGHCCTCIDIGSFSCDCRSWGEGFCCQREVSFLNCSLDNGCTCHYCLAEVGRRCSC 120  
QY 121 APGYLGDLDLQCHPAVKEFGCPGKPMKMKKSHKRTDEQDQVDPDLTGKMKTRGD 180  
DB 121 APGYLGDLDLQCHPAVKEFGCPGKPMKMKKSHKRTDEQDQVDPDLTGKMKTRGD 180  
QY 181 SPWQVLLDSKKKLAGAVLHPSPWVLTAAHCMDSSKDLVRLGEYDLRRMKELDDI 240  
DB 181 SPWQVLLDSKKKLAGAVLHPSPWVLTAAHCMDSSKDLVRLGEYDLRRMKELDDI 240  
QY 241 KEVFNHNSKSTTNDIALHLAQPAITLQITVPCIPDSGLAEELNQAQETLVYWG 300  
DB 241 KEVFNHNSKSTTNDIALHLAQPAITLQITVPCIPDSGLAEELNQAQETLVYWG 300  
QY 301 GHSSREKAKRRTVNLFIKIPVPHNCSFWSNMVSNMTCAGILGDRQDACEDS 360  
DB 301 GHSSREKAKRRTVNLFIKIPVPHNCSFWSNMVSNMTCAGILGDRQDACEDS 360

DB 301 GHSSREKAKRRTVNLFIKIPVPHNCSFWSNMVSNMTCAGILGDRQDACEDS 360  
QY 361 GGPWVASFHGTWLVGLVSWGEGCGLLANTYGYTTSYLLDMTHGHIRKKAPOKSNAP 419  
DB 361 GGPWVASFHGTWLVGLVSWGEGCGLLANTYGYTTSYLLDMTHGHIRKKAPOKSNAP 419

RESULT 90  
AAU99082  
ID AAU99082 standard; protein; 419 AA.

AC AAU99082;  
DT 23-AUG-2002 (first entry)

DE Human Protein C zymogen protein mutant D351N/Q353T.

KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.

OS Homo sapiens.  
XX Synthetic.

PH Key Location/Qualifiers

FT Protein 1..155

FT Peptide /label= Light\_chain

FT Peptide /label= Lys\_Arg\_dipeptide

FT Peptide /label= Heavy\_chain

FT Peptide /label= Activation\_peptide

FT Misc-difference 351

FT Misc-difference 351

FT Misc-difference 353

FT /note= "Wild-type Gln substituted by Thr"

PN W0200232461-A2.

PD 25-APR-2002.

XX 15-OCT-2001; 2001WO-DK000679.

PR 18-OCT-2000; 2000DK-00001560.

PR 18-OCT-2000; 2000US-0242268P.

PR 21-JUN-2001; 2001DK-00000970.

PR 21-JUN-2001; 2001US-0300154P.

XX (MAXY-) MAXYGEN APS

PA (MAXY-) MAXYGEN HOLDINGS LTD.

XX Andersen KV, Pedersen AH, Freskgaard PO;

PI WPI; 2002-489875/52.

DR WPI; 2002-489875/52.

XX Novel conjugate useful for treating or preventing septic shock, stroke

PT and myocardial infarction, comprises non-polypeptide group covalently

PT attached to protein C polypeptide comprising an attachment group.

XX Claim 9; Page: 92pp; English.

XX The invention relates to a conjugate (I) comprising at least one non-

CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to

CC a protein C polypeptide comprising an amino acid sequence which differs

CC from that of a parent protein C polypeptide (III) in at least one

CC introduced and/or at least one removed amino acid residue comprising an

CC attachment group for the non-polypeptide group (e.g. an N-glycosylation

CC site). Also included are (1) a variant (IV) of (III) comprising a

CC substitution in a position (P) where (P) is an amino acid with at least

	Query Match	99.5%	Score 2313	DB 5	Length 419
	Best Local Similarity	99.5%	Pred 1.6e-142		
	Matches 417	Conservative 1	Mismatches 1	Indels 0	Gaps 0
QY	1	ANSFLEELHSSLERECIEBICDPEFAKEIFQVNDVTLLAFMSKHDGDDQVLPLEHPGA	60		
Db	1	ANSFLEELHSSLERECIEBICDPEFAKEIFQVNDVTLLAFMSKHDGDDQVLPLEHPGA	60		
QY	61	SLCCGGTCTCIDIGSFSCDCRSWGTRPCQREVSFLNCSLNGGCTHYCLEVGMRRSC	120		
Db	61	SLCCGGTCTCIDIGSFSCDCRSWGTRPCQREVSFLNCSLNGGCTHYCLEVGMRRSC	120		
QY	121	APGYKLGDDLLQCHPAKPKPCGRPMKMEKKSHLKRQEDQEQVNPRLIGKMTGRD	180		
Db	121	APGYKLGDDLLQCHPAKPKPCGRPMKMEKKSHLKRQEDQEQVNPRLIGKMTGRD	180		
QY	181	SPWQVVLIDSSKKKLACAVVLHPHSWVLLAAHCWDESKLLVLAQEYDLRMEKMTLDDI	240		
Db	181	SPWQVVLIDSSKKKLACAVVLHPHSWVLLAAHCWDESKLLVLAQEYDLRMEKMTLDDI	240		
QY	241	KEVVFHPNYSKSTTDNDIALHLAQATLSGTVIPCLPDSGLAERLNAQGEFLVTGM	300		
Db	241	KEVVFHPNYSKSTTDNDIALHLAQATLSGTVIPCLPDSGLAERLNAQGEFLVTGM	300		
QY	301	GYHSREKKAAXNRFLPFLNFIKLPVYPHNESEVMNMSSEWMLCAGLIGDRDQACEDS	360		
Db	301	GYHSREKKAAXNRFLPFLNFIKLPVYPHNESEVMNMSSEWMLCAGLIGDRDQACEDS	360		
QY	361	GGEPVVASFHGTAFVLVAVSWGEGCGLLHNYGVYTKSRLLDWIGHITRDKEAPQKSNAP	419		
Db	361	GGEPVVASFHGTAFVLVAVSWGEGCGLLHNYGVYTKSRLLDWIGHITRDKEAPQKSNAP	419		

DE	Human Protein C zymogen protein mutant K191N/K193T.
XX	Human, Protein C; N-glycosylation; APC; activated protein C; zymogen;
KM	serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;
KM	after venous thrombosis; disseminated intravascular coagulation; DIC;
KM	sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;
KM	bone marrow transplantation; major surgery; trauma; APDS; coagulant;
KM	adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.
OS	Homo sapiens.
XX	Synthetic.
XX	
FH	Key
FT	Protein
FT	Location/Qualifiers
FT	1..155
FT	/label=light_chain
FT	Peptide
FT	156..157
FT	/label=Lys_Arg_dipeptide
FT	Protein
FT	158..419
FT	/label=Heavy_chain
FT	Peptide
FT	158..169
FT	/label=Activation_peptide
FT	Misc-difference 191
FT	/note="Wild-type Lys substituted by Asn"
FT	Misc-difference 193
FT	/note="Wild-type Lys substituted by Thr"
PN	W0200232461-A2.
XX	
PD	25-APR-2002.
PF	15-OCT-2001; 2001WO-DK000679.
PR	18-OCT-2000; 2000DK-00001560.
PR	18-OCT-2000; 2000US-0242268P.
PR	21-JUN-2001; 2001DK-00009370.
PR	21-JUN-2001; 2001US-0300154P.
XX	
PA	(MAXY-) MAXYGEN APS.
PA	(MAXY-) MAXYGEN HOLDINGS LTD.
Pt	Andersen KV, Pedersen AH, Friesgaard PO;
DR	WPI; 2002-489875/52.
PT	Novel conjugate useful for treating or preventing septic shock, stroke
PT	and myocardial infarction, comprises non-polypeptide group covalently
PT	attached to protein C polypeptide comprising an attachment group.
XX	
BS	Claim 9; Page; 92pp; English.
CC	The invention relates to a conjugate (I) comprising at least one non-
CC	polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to
CC	a protein C polypeptide comprising an amino acid sequence which differs
CC	from that of a parent protein C polypeptide (III) in at least one
CC	introduced and/or at least one removed amino acid residue comprising an
CC	attachment group for the non-polypeptide group (e.g. an N-glycosylation
CC	site). Also included are (1) a variant (IV) of (III) comprising a
CC	substitution in a position (p) where (p) is an amino acid with at least
CC	2% of its side group exposed to the surface, with the proviso that the
CC	substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Glu/Gly/Gln,
CC	Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe16Ser/Ala/Thr/
CC	His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding
CC	(IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)
CC	comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-
CC	-life or the serum half-life of a parent protein C polypeptide. The
CC	conjugates, variants and protein C proteins are useful as medicaments,
CC	and in the manufacture of medicines for the treatment (and
CC	diagnosis/prevention) of stroke, myocardial infarction, after venous
CC	thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic
CC	shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow
CC	transplantation, burns, pregnancy, major surgery/trauma or adult
CC	respiratory distress syndrome (ARDS). The variant protein C has an
CC	increased resistance to activation by e.g. human plasma and alpha-1

CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 SQ Sequence 419 AA;

Query Match 99.5%; Score 2313; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1.6e-142;  
 Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 ANSFLEELRHSLERECIEICPEFAKEITQNVDTLAPWKRHDGQCLVPLHPRA 60  
 Db 1 ANSFLEELRHSLERECIEICPEFAKEITQNVDTLAPWKRHDGQCLVPLHPRA 60  
 QY 61 SLCCGHTCIGDIGSFSCDRCSGWEGFQREVSFLNCSLDNGCCTHYCLEEYGMRCSC 120  
 Db 61 SLCCGHTCIGDIGSFSCDRCSGWEGFQREVSFLNCSLDNGCCTHYCLEEYGMRCSC 120  
 QY 121 APGYKLGDDLIQCHPAVPCPGPWRMEKRSRLKEDTEDQDVDRLLIDSKMTRGD 180  
 Db 121 APGYKLGDDLIQCHPAVPCPGPWRMEKRSRLKEDTEDQDVDRLLIDSKMTRGD 180  
 QY 181 SPNOVVLDSKKKLACGAVLIHPSWLTAAHOMESKLLVGLGYDPRMEKWEIDLI 240  
 Db 181 SPNOVVLDSKKKLACGAVLIHPSWLTAAHOMESKLLVGLGYDPRMEKWEIDLI 240  
 QY 241 KEFVHPNYSKSTTDNDIALHIAQPAITLQTVPLCLPSGLAREINAGQETLVTM 300  
 Db 241 KEFVHPNYSKSTTDNDIALHIAQPAITLQTVPLCLPSGLAREINAGQETLVTM 300  
 QY 301 GHSSSEKAKRNRTFVLANFKIPVPHNECEVMSNMVSENMLCAGILGRDACEGDS 360  
 Db 301 GHSSSEKAKRNRTFVLANFKIPVPHNECEVMSNMVSENMLCAGILGRDACEGDS 360  
 QY 361 GGMVASFEGMTFELVGVSMGEGCGILHNYGVYKVSRYLDMTHGIDTDXAPQXMAP 419  
 Db 361 GGMVASFEGMTFELVGVSMGEGCGILHNYGVYKVSRYLDMTHGIDTDXAPQXMAP 419

RESULT 92  
 AAU99040  
 ID AAU99040 standard; protein. 419 AA.  
 XX  
 AC AAU99040;  
 XX  
 DT 23-AUG-2002 (first entry)  
 XX  
 DE Human Protein C zymogen protein mutant T254N/N256T.  
 XX  
 KW Human, Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; AADS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mucin.  
 XX  
 OS Homo sapiens.  
 XX  
 OS Synthetic.  
 XX  
 FH Key Location/Qualifiers  
 FT 1..155  
 FT Protein /label= Light\_chain

FT Peptide 156..157  
 FT /label= Lys\_Arg dipeptide  
 FT Protein 158..419  
 FT /label= Heavy\_chain  
 FT Peptide 158..159  
 FT /label= Activation\_peptide  
 FT Misc-difference 254  
 FT /note= "Wild-type Thr substituted by Asn"  
 FT Misc-difference 256  
 FT /note= "Wild-type Asn substituted by Thr"  
 XX  
 PF MO200232461-A2.  
 XX  
 PF 25-APR-2002.  
 XX  
 PF 15-OCT-2001; 2001MO-DK000679.  
 XX  
 PF 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN ABS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 PA  
 PI Andersen KV, Pedersen AH, Freaekgaard PO;  
 DR WPI; 2002-489875/52.  
 XX  
 PS Claim 9; Page: 92pp; English.  
 XX  
 The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 2% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life.  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX

Sequence 419 AA:

Query Match 99.5%; Score 2313; DB 5; Length 419;  
Best Local Similarity 99.5%; Pred. No. 1.6e-142;  
Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 ANSPLEELRHSLSRECEIEICDPFEAKETIQVNDOTLAFMSKRVGDDQCLVPLEHPCA 60  
DB 1 ANSPLEELRHSLSRECEIEICDPFEAKETIQVNDOTLAFMSKRVGDDQCLVPLEHPCA 60  
QY 61 SLCCGHTCIDIGISFSCDCRSWGEGRFQREVSFLNCSLDNGGCTHYCLEEVMRRSC 120  
DB 61 SLCCGHTCIDIGISFSCDCRSWGEGRFQREVSFLNCSLDNGGCTHYCLEEVMRRSC 120  
QY 121 ARGYLGDLLQCHPAVKPCGRPMKMKKRSKRLKPTDEQVDPRLIDGKMTTRGD 180  
DB 121 ARGYLGDLLQCHPAVKPCGRPMKMKKRSKRLKPTDEQVDPRLIDGKMTTRGD 180  
QY 181 SPQVYVLLDSKKLACGAVLTHPSWVLTAAHCKDESKKLLVRLGEVDLRRMEKMLDDI 240  
DB 181 SPQVYVLLDSKKLACGAVLTHPSWVLTAAHCKDESKKLLVRLGEVDLRRMEKMLDDI 240  
QY 241 KEVFAHENVSKSTTNDIALHLAQPATLSQITVPLCLPDSGLAERELNQAQETLVYGV 300  
DB 241 KEVFAHENVSKSTTNDIALHLAQPATLSQITVPLCLPDSGLAERELNQAQETLVYGV 300  
QY 301 GHSSREKEAKRRRTVNLFIKIPVPHNCSFWSNMVSNMTCAGTIGDQDCEGDS 360  
DB 301 GHSSREKEAKRRRTVNLFIKIPVPHNCSFWSNMVSNMTCAGTIGDQDCEGDS 360  
QY 361 GGPMTASPHGTWELVGLVMSGEGCLLHNGVTVKSRSLDWIGHIRIDEKAPQKSNAP 419  
DB 361 GGPMTASPHGTWELVGLVMSGEGCLLHNGVTVKSRSLDWIGHIRIDEKAPQKSNAP 419

RESULT 93  
AAU99060  
ID AAU99060 standard; protein; 419 AA.  
AC AAU99060;  
XX 23-AUG-2002 (first entry)  
DE Human Protein C zymogen protein mutant E309N/K311T.  
XX  
KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
XX  
OS Homo sapiens.  
OS Synthetic.  
XX  
FH Key Location/Qualifiers  
FT Protein 1..155  
FT Peptide /label= Light\_chain  
FT /label= Lys\_Arg\_dipeptide  
FT /label= Lys\_Arg\_dipeptide  
FT /label= Heavy\_chain  
FT /label= Heavy\_chain  
FT Peptide 158..419  
FT /label= Activation\_peptide  
FT /label= Activation\_peptide  
FT Misc-difference 309  
FT /note= "Wild-type Glu substituted by Asn"  
FT /note= "Wild-type Lys substituted by Thr"  
FT Misc-difference 311  
FT /note= "Wild-type Lys substituted by Thr"  
XX  
XX WO200232461-A2.  
XX  
XX PD 25-Apr-2002.  
XX

PF 15-OCT-2001; 2001WO-DK000679.  
XX  
PR 18-OCT-2000; 2000DK-00001560.  
PR 18-OCT-2000; 2000US-0242268P.  
PR 21-JUN-2001; 2001DK-00000970.  
PR 21-JUN-2001; 2001US-0300154P.  
XX  
PA (MAXY-) MAXYGEN APS.  
PA (MAXY-) MAXYGEN HOLDINGS LTD.  
XX  
PI Andersen KV, Pedersen AH, Freskgaard PO;  
XX  
XX WPI; 2002-489875/52.  
PT Novel conjugate useful for treating or preventing septic shock, stroke  
PT and myocardial infarction, comprises non-polypeptide group covalently  
PT attached to protein C polypeptide comprising an attachment group.  
XX  
PS Claim 9; Page; 92pp; English.  
XX  
CC The invention relates to a conjugate (I) comprising at least one non-  
CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
CC a protein C polypeptide comprising an amino acid sequence which differs  
CC from that of a parent protein C polypeptide (III) in at least one  
CC introduced and/or at least one removed amino acid residue comprising an  
CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
CC site). Also included are (1) a variant (IV) of (III) comprising a  
CC substitution in a position (P) where (P) is an amino acid with at least  
CC 25% of its side group exposed to the surface, with the proviso that the  
CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln/Thr/  
CC Tyr303Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe315Ser/Ala/Thr/  
CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
CC life of the serum half-life of a parent protein C polypeptide. The  
CC conjugates, variants and protein C proteins are useful as medicaments,  
CC and in the manufacture of medicaments for the treatment (and  
CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
CC transplantation, burns, pregnancy, major surgery/trauma or adult  
CC respiratory distress syndrome (ARDS). The variant protein C has an  
CC increased resistance to activation by e.g. human plasma and alpha-1  
CC antitrypsin. The conjugates have an increased in vivo half-life,  
CC increased serum half-life, increased resistance to inhibitors, reduced  
CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
CC The conjugate offers a number of advantages over the currently available  
CC APC products, including longer duration between injections, a  
CC administration of less protein, and fewer side effects. Moreover, a  
CC reduced anticoagulant activity is beneficial to reduce the risk of  
CC bleeding while maintaining the antiinflammatory activity of APC  
CC (activated protein C) conjugates. This must be especially important when  
CC the conjugate has an extended plasma life. The gene for protein C is  
CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
CC protein C variant of the invention. Note: The present sequence is not  
CC shown in the specification but was created by the indexer using the  
CC protein C sequence appearing as AAU99060 and the information in claim 9  
XX  
XX Sequence 419 AA:  
QY Query Match 99.5%; Score 2313; DB 5; Length 419;  
QY Best Local Similarity 99.5%; Pred. No. 1.6e-142;  
QY Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
DB 1 ANSPLEELRHSLSRECEIEICDPFEAKETIQVNDOTLAFMSKRVGDDQCLVPLEHPCA 60  
DB 1 ANSPLEELRHSLSRECEIEICDPFEAKETIQVNDOTLAFMSKRVGDDQCLVPLEHPCA 60  
QY 61 SLCCGHTCIDIGISFSCDCRSWGEGRFQREVSFLNCSLDNGGCTHYCLEEVMRRSC 120  
DB 61 SLCCGHTCIDIGISFSCDCRSWGEGRFQREVSFLNCSLDNGGCTHYCLEEVMRRSC 120  
QY 121 ARGYLGDLLQCHPAVKPCGRPMKMKKRSKRLKPTDEQVDPRLIDGKMTTRGD 180

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Db 121 APGYKGGDLLQCHPAVPCGPRPMKMEKRSKSLKDTDEDDQVDPRLIDGKMTKRGD 180
Qy 181 SPWQVLLDSKKKLACGAVLIHPSVLTAAHOMDSKLLVRLGEYDIRMEKWEIDDI 240
Db 181 SPWQVLLDSKKKLACGAVLIHPSVLTAAHOMDSKLLVRLGEYDIRMEKWEIDDI 240
Qy 241 KEVFAHPNYSKSTTNDIALHLAOPATLSQITVPCIPDSGLAEKRLNQAQETLVGM 300
Db 241 KEVFAHPNYSKSTTNDIALHLAOPATLSQITVPCIPDSGLAEKRLNQAQETLVGM 300
Qy 301 GYHSSEKEAKRNTFEVLPFIKIPVPHNECEVSNMVSNNMLCAGILDRDACEGDS 360
Db 301 GYHSSEKEAKRNTFEVLPFIKIPVPHNECEVSNMVSNNMLCAGILDRDACEGDS 360
Qy 361 GGPWVASFHGTFTVLGVVSGEGCLINNYGYTKVSRVLDWIGHITDKEAPQKSNAP 419
Db 361 GGPWVASFHGTFTVLGVVSGEGCLINNYGYTKVSRVLDWIGHITDKEAPQKSNAP 419

RESULT 94
AAU99056
ID AAU99056 standard; protein; 419 AA.
AC AAU99056;
XX
XX 23-AUG-2002 (first entry)
DE Human Protein C zymogen protein mutant E307N/E309T.
XX
XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;
KM serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;
KM after venous thrombosis; disseminated intravascular coagulation; DIC;
KM sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;
KM bone marrow transplantation; major surgery; trauma; ARDS; coagulant;
XX adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutain.
XX
OS Homo sapiens.
XX Synthetic.
FH Key Location/Qualifiers
FT Protein 1..155
FT Peptide /label= Light_chain 156..157
FT Protein /label= Lys_Arg_dipeptide 158..419
FT Peptide /label= Heavy_chain 158..169
FT Misc-difference 307 /label= Activation_peptide
FT Misc-difference 309 /note= "Wild-type Glu substituted by Asn"
FT /note= "Wild-type Glu substituted by Thr"
XX
XX W0200232461-A2.
XX
XX 25-APR-2002.
XX
XX 15-OCT-2001; 2001MO-DK000679.
XX
XX 18-OCT-2000; 2000DK-00001560.
XX 18-OCT-2000; 2000US-0242268P.
XX 21-JUN-2001; 2001DK-0000970.
XX 21-JUN-2001; 2001US-0300154P.
XX
XX (MAXI-) MAXYGEN AFS.
XX (MAXI-) MAXYGEN HOLDINGS LTD.
XX
XX Andersen KV, Pedersen AH, Freskgaard PO;
XX WPI; 2002-489875/52.
XX
XX Novel conjugate useful for treating or preventing septic shock, stroke

```

PT and myocardial infarction, comprises non-polypeptide group covalently  
PT attached to protein C polypeptide comprising an attachment group.

Claim 9; Page; 92pp; English.

The invention relates to a conjugate (I) comprising at least one non-  
polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
a protein C polypeptide comprising an amino acid sequence which differs  
from that of a parent protein C polypeptide (III) in at least one  
introduced and/or at least one removed amino acid residue comprising an  
attachment group for the non-polypeptide group (e.g. an N-glycosylation  
site). Also included are (1) a variant (IV) of (II) comprising a  
substitution in a position (P) where (P) is an amino acid with at least  
25% of its side group exposed to the surface, with the proviso that the  
substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
(IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
life or the serum half-life of a parent protein C polypeptide. The  
conjugates, variants and protein C proteins are useful as medicaments,  
and in the manufacture of medicaments for the treatment (and  
diagnosis/prevention) of stroke, myocardial infarction, after venous  
thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
transplantation, burns, pregnancy, major surgery/trauma or adult  
respiratory distress syndrome (ARDS). The variant protein C has an  
increased resistance to activation by e.g. human plasma and alpha-1  
antitrypsin. The conjugates have an increased in vivo half-life,  
increased serum half-life, increased resistance to inhibitors, reduced  
renal clearance, reduced immunogenicity and/or increased bioavailability.  
The conjugate offers a number of advantages over the currently available  
APC products, including longer duration between injections,  
administration of less protein, and fewer side effects. Moreover, a  
reduced anticoagulant activity is beneficial to reduce the risk of  
bleeding while maintaining the antiinflammatory activity of APC  
(activated protein C) conjugates. This must be especially important when  
the conjugate has an extended plasma life. The gene for protein C is  
located on chromosome 2q13-q14. The present sequence represents a zymogen  
protein C variant of the invention. Note: The present sequence is not  
shown in the specification but was created by the indexer using the  
protein C sequence appearing as AAU99002 and the information in claim 9

Sequence 419 AA;

Query Match 99.5%; Score 2313; DB 5; Length 419;  
Best Local Similarity 99.5%; Pred. No. 1.6e-142;  
Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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Qy 1 ANSPFLEIRRSSIERCEIEICDPEEAKELFQVNDTLAFMSKRVADQCLVLPHEPCA 60
Db 1 ANSPFLEIRRSSIERCEIEICDPEEAKELFQVNDTLAFMSKRVADQCLVLPHEPCA 60
Qy 61 SLCCGHTCTIDIGISFSCDCSSGWEGRFCQREVSFLNCSLDNGCTHYCLIEEVRRCSC 120
Db 61 SLCCGHTCTIDIGISFSCDCSSGWEGRFCQREVSFLNCSLDNGCTHYCLIEEVRRCSC 120
Qy 121 APGYTGGDLLQCHPAVPCGPRPMKMEKRSKSLKDTDEDDQVDPRLIDGKMTKRGD 180
Db 121 APGYTGGDLLQCHPAVPCGPRPMKMEKRSKSLKDTDEDDQVDPRLIDGKMTKRGD 180
Qy 181 SPWQVLLDSKKKLACGAVLIHPSVLTAAHOMDSKLLVRLGEYDIRMEKWEIDDI 240
Db 181 SPWQVLLDSKKKLACGAVLIHPSVLTAAHOMDSKLLVRLGEYDIRMEKWEIDDI 240
Qy 241 KEVFAHPNYSKSTTNDIALHLAOPATLSQITVPCIPDSGLAEKRLNQAQETLVGM 300
Db 241 KEVFAHPNYSKSTTNDIALHLAOPATLSQITVPCIPDSGLAEKRLNQAQETLVGM 300
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Db 301 GYHSSEKEAKRNTFEVLPFIKIPVPHNECEVSNMVSNNMLCAGILDRDACEGDS 360

```



QY 361 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGVYTKVSRYLDMIGHIRDEKAPQKSNAP 419  
DB 361 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGVYTKVSRYLDMIGHIRDEKAPQKSNAP 419

RESULT 95  
AAU99085  
AAU99085 standard; protein; 419 AA.

AC AAU99085;  
DT 23-AUG-2002 (first entry)  
DE Human Protein C zymogen protein mutant E357N/D359S.

XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
XX serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
XX after venous thrombosis; disseminated intravascular coagulation; DIC;  
XX sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
XX bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
XX adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mucin.

XX Homo sapiens.  
OS Synthetic.

XX Key Location/Qualifiers  
XX Protein 1..155  
XX Peptide /label= Light\_chain  
XX Peptide 156..157  
XX Protein /label= Lys\_Arg\_dipeptide  
XX Peptide 158..419  
XX Peptide /label= Heavy\_chain  
XX Peptide 158..169  
XX /label= Activation\_peptide  
XX MISC-difference 357  
XX /note= "Wild-type Glu substituted by Asn"  
XX MISC-difference 359  
XX /note= "Wild-type Asp substituted by Ser"

XX WO200232461-A2.  
XX 25-APR-2002.  
XX 15-OCT-2001; 2001WO-DK000679.  
XX 18-OCT-2000; 2000DK-0000156P.  
XX 18-OCT-2000; 2000US-0242286P.  
XX 21-JUN-2001; 2001DK-00000970.  
XX 21-JUN-2001; 2001US-0300154P.

XX (MAXY-) MAXYGEN APS.  
XX (MAXY-) MAXYGEN HOLDINGS LTD.  
XX Andersen KV, Pedersen AH, Freskgaard PO;  
XX WPI; 2002-489875/52.  
XX Novel conjugate useful for treating or preventing septic shock, stroke  
XX and myocardial infarction, comprises non-polypeptide group covalently  
XX attached to protein C polypeptide comprising an attachment group.

XX Claim 9; Page; 92pp; English.

XX The invention relates to a conjugate (I) comprising at least one non-  
XX polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
XX a protein C polypeptide comprising an amino acid sequence which differs  
XX from that of a parent protein C polypeptide (III) in at least one  
XX introduced and/or at least one removed amino acid residue comprising an  
XX attachment group for the non-polypeptide group (e.g. an N-glycosylation  
XX site). Also included are (1) a variant (IV) of (III) comprising a  
XX substitution in a position (P) where (P) is an amino acid with at least  
XX 25% of its side group exposed to the surface, with the proviso that the  
XX substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,

CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln. (2) a nucleotide sequence (V) encoding  
CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
CC comprising (V) or (VI); (5) increasing (W2) the functional in vivo half-  
CC life of the serum half-life of a parent protein C polypeptide. The  
CC conjugates, variants and protein C proteins are useful as medicaments,  
CC and in the manufacture of medicaments for the treatment (and  
CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
CC transplantation, burns, pregnancy, major surgery/trauma or adult  
CC respiratory distress syndrome (ARDS). The variant protein C has an  
CC increased resistance to activation by e.g. human plasma and alpha-1  
CC antitrypsin. The conjugates have an increased in vivo half-life,  
CC increased serum half-life, increased resistance to inhibitors, reduced  
CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
CC The conjugate offers a number of advantages over the currently available  
CC APC products, including longer duration between injections,  
CC administration of less protein, and fewer side effects. Moreover, a  
CC reduced anticoagulant activity is beneficial to reduce the risk of  
CC bleeding while maintaining the anti-inflammatory activity of APC  
CC (activated protein C) conjugates. This must be especially important when  
CC the conjugate has an extended plasma life. The gene for protein C is  
CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
CC protein C variant of the invention. Note: The present sequence is not  
CC shown in the specification but was created by the indexer using the  
CC protein C sequence appearing as AAU99002 and the information in claim 9  
XX

SQ Sequence 419 AA;  
Query Match 99.5%; Score 2113; DB 5; Length 419;  
Best Local Similarity 99.5%; Pred. No. 1.6e-142;  
Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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DB 1 ANSFLEIRHSRLRECEIEICDFEAEKIFQNVDDTLAFNKHVDGCLVPLEHPA 60

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DB 61 SLCCGHGTCIDIGISFSCDGRSGMEGRFCQREVSFLNCSLDNGGCTHYCEYGMRCSC 120

QY 121 APGYKGLDILLQCHPAVKEPCGRPKMEKKRSHLRDTEDEQDVPRLLIDSKMTRRGD 180  
DB 121 APGYKGLDILLQCHPAVKEPCGRPKMEKKRSHLRDTEDEQDVPRLLIDSKMTRRGD 180

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DB 241 KEVFEHPNYSKSTTDNDIALHLAOPATLSQTVPLCLPDSGLAREINAGQETLVYGM 300

QY 301 GYHSSREKAKRNTFTPLNFIKIPVVPNKECEYSNMSENMLCAGILGRDQACGDS 360  
DB 301 GYHSSREKAKRNTFTPLNFIKIPVVPNKECEYSNMSENMLCAGILGRDQACGDS 360

QY 361 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGVYTKVSRYLDMIGHIRDEKAPQKSNAP 419  
DB 361 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGVYTKVSRYLDMIGHIRDEKAPQKSNAP 419

RESULT 96  
AAU99044  
AAU99044 standard; protein; 419 AA.

XX AAU99044;  
XX AC AAU99044;  
XX 23-AUG-2002 (first entry)  
DE Human Protein C zymogen protein mutant L296N/T298S.

Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KM serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KM after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KM sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KM bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KM adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 FH Key  
 FT Location/Qualifiers  
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 FT Peptide  
 FT 156..157  
 FT /label= Lys\_Arg\_dipeptide  
 FT Protein  
 FT 158..419  
 FT /label= Heavy\_chain  
 FT Peptide  
 FT 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 257  
 FT /note= "Wild-type Thr substituted by Ser"  
 FT Misc-difference 296  
 FT /note= "Wild-type Leu substituted by Asn"  
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 XX W0200232461-A2.  
 XX  
 PD 25-APR-2002.  
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 XX 15-OCT-2001; 2001MO-DK000679.  
 XX  
 XX 18-OCT-2000; 2000DK-00001560.  
 XX 18-OCT-2000; 2000US-0242268P.  
 XX 21-JUN-2001; 2001DK-0000097D.  
 XX 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 PA  
 PI Andersen KV, Pedersen AH, Freshgard PO;  
 DR WPI, 2002-489875/52.  
 XX  
 XX Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 FT attached to protein C polypeptide comprising an attachment group.  
 XX  
 XX Claim 9; Page; 92pp; English.  
 XX  
 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln.  
 CC Tyr32Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe31Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistant to inhibitors, reduced

CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections.  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the anti-inflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 XX Sequence 419 AA:  
 XX  
 XX Query Match 99.5%; Score 2313; DB 5; Length 419;  
 XX Best Local Similarity 99.5%; Pred. No. 1,6e-142;  
 XX Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;  
 XX  
 QY 1 ANSFLEIRHSLSRECEIEICDFEAKETFDVDDTLAFMSKRVDDQVLPLEHCA 60  
 DB 1 ANSFLEIRHSLSRECEIEICDFEAKETFDVDDTLAFMSKRVDDQVLPLEHCA 60  
 QY 61 SLCCGHGTCIDIGSPSCDCRSWGEGRFCCREYSFNGSLDNGCTHYCLEBYGMRRCSC 120  
 DB 61 SLCCGHGTCIDIGSPSCDCRSWGEGRFCCREYSFNGSLDNGCTHYCLEBYGMRRCSC 120  
 QY 121 APGYLGDILLQCHPAVKFPCGRPMKMEKRSGLKRTDQEDQVDPRLIDGKTRRGD 180  
 DB 121 APGYLGDILLQCHPAVKFPCGRPMKMEKRSGLKRTDQEDQVDPRLIDGKTRRGD 180  
 QY 181 SPWQVVLIDSKKLACGANTLHPSWVLTAAHCMDSSKTLVRLGEYDLPKMEVELDLDI 240  
 DB 181 SPWQVVLIDSKKLACGANTLHPSWVLTAAHCMDSSKTLVRLGEYDLPKMEVELDLDI 240  
 QY 241 KEVFHPNYSKSTTDNDIALHLAQPATLSQITVPICLPDSGLAERLINDAQGETLVYTWG 300  
 DB 241 KEVFHPNYSKSTTDNDIALHLAQPATLSQITVPICLPDSGLAERLINDAQGETLVYTWG 300  
 QY 301 GHSSREKEAKRNRTVLANFETKIPVPHNECSFWSNVSNNLCAGILLDQDACEBDS 360  
 DB 301 GHSSREKEAKRNRTVLANFETKIPVPHNECSFWSNVSNNLCAGILLDQDACEBDS 360  
 QY 361 GGPVWASPHGTWFTVGLVSWEGCGLLHNYGVYTKYSRLDMHIGLRIDKEAPKSNAP 419  
 DB 361 GGPVWASPHGTWFTVGLVSWEGCGLLHNYGVYTKYSRLDMHIGLRIDKEAPKSNAP 419  
 XX  
 XX RESULT 97  
 XX AAU99054  
 XX ID AAU99054 standard; protein; 419 AA.  
 XX  
 XX AC AAU99054;  
 XX  
 XX DT 23-AUG-2002 (first entry)  
 XX  
 XX DE Human Protein C zymogen protein mutant R306N/K308T.  
 XX  
 XX KM Human, Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 XX KM serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 XX KM after venous thrombosis; disseminated intravascular coagulation; DIC;  
 XX KM sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 XX KM bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 XX KM adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 XX OS Homo sapiens.  
 XX OS Synthetic.  
 XX  
 FH Key  
 FT Location/Qualifiers  
 FT 1..155  
 FT /label= Light\_chain  
 FT Peptide  
 FT 156..157  
 FT /label= Lys\_Arg\_dipeptide

FT Protein 158..419  
 FT Peptide /label= Heavy\_chain  
 FT 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 306  
 FT /note= "Wild-type Arg substituted by Asn"  
 FT Misc-difference 308  
 FT /note= "Wild-type Lys substituted by Thr"  
 PN WO200232461-A2.  
 PD 25-APR-2002.  
 XX 15-OCT-2001; 2001MO-DK000679.  
 XX 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000DS-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN APS.  
 PI (MAXY-) MAXYGEN HOLDINGS LTD.  
 PI Andersen KV, Pedersen AH, Friesgaard PO;  
 DR WPI, 2002-489875/52.  
 XX  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 PS Claim 9; Page; 92pp; English.  
 XX  
 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe368Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
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 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 SQ Sequence 419 AA;

Query Match 99.5%; Score 2313; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1.6e-142;  
 Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
 QY 1 ANSPLEELHSSSLRECEIEICDFEAKEIFONVDDTLAFWSKRVYDQCCLVPLBHPCA 60  
 DB 1 ANSPLEELHSSSLRECEIEICDFEAKEIFONVDDTLAFWSKRVYDQCCLVPLBHPCA 60  
 QY 61 SLCCGHTCICDIGISFSCDCRSQMEGRFCQREVSFLNCSLDNCGCTHYCLEEYVWRRCSC 120  
 DB 61 SLCCGHTCICDIGISFSCDCRSQMEGRFCQREVSFLNCSLDNCGCTHYCLEEYVWRRCSC 120  
 QY 121 ARGKLGDDLLQCHAYKFCGRPMKRMKRRSHKEDTEQDDQVDPRLIDGKMTFRG 180  
 DB 121 ARGKLGDDLLQCHAYKFCGRPMKRMKRRSHKEDTEQDDQVDPRLIDGKMTFRG 180  
 QY 181 SPWQVVLDSKKKLLACGAVLIHPSWLTAAHQMDESKLLVRLGEYDLRRMEKELDLDI 240  
 DB 181 SPWQVVLDSKKKLLACGAVLIHPSWLTAAHQMDESKLLVRLGEYDLRRMEKELDLDI 240  
 QY 241 KEVFEHNSKSTTNDIALHIAOPATISQTYPICLPDSGLAEBELNAGQETLVTCM 300  
 DB 241 KEVFEHNSKSTTNDIALHIAOPATISQTYPICLPDSGLAEBELNAGQETLVTCM 300  
 QY 301 GYHSREKAKKRNRTFVINFIXI PVVPHNECEYSNMVSENNLCAGLIGRQDRCRGS 360  
 DB 301 GYHSNETAKKRNRTFVINFIXI PVVPHNECEYSNMVSENNLCAGLIGRQDRCRGS 360  
 QY 361 GGPVWASFHGTWFLVGLVSWGEGGGLHNYGYTKVSRYLDMTHIRIDKAPQKSNAP 419  
 DB 361 GGPVWASFHGTWFLVGLVSWGEGGGLHNYGYTKVSRYLDMTHIRIDKAPQKSNAP 419  
 RESULT 98  
 AAU99065  
 ID AAU99065 standard; protein, 419 AA.  
 XX  
 AC AAU99065;  
 XX  
 DT 23-AUG-2002 (first entry)  
 XX  
 DE Human Protein C zymogen protein mutant T315N/V317S.  
 XX  
 KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 FH Key Location/Qualifiers  
 FT Protein 1..155  
 FT Peptide /label= Light\_chain  
 FT 156..157  
 FT /label= Lys\_Arg\_dipeptide  
 FT Protein 158..419  
 FT Peptide /label= Heavy\_chain  
 FT 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 315  
 FT /note= "Wild-type Thr substituted by Asn"  
 FT Misc-difference 317  
 FT /note= "Wild-type Val substituted by Ser"  
 XX  
 PN WO200232461-A2.  
 PD 25-APR-2002.  
 XX  
 PF 15-OCT-2001; 2001MO-DK000679.

PR 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN ADS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 PI Andersen KV, Pedersen AH, Freaekgaard PO;  
 XX WPI; 2002-489875/52.  
 DR  
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 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
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 PS Claim 9; Page; 92pp; English.

XX The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (p) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr24Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AA039002 and the information in claim 9  
 XX

Sequence 419 AA;

Query Match 99.5%; Score 2313; DB 5; Length 419;

Best Local Similarity 99.5%; Pred. No. 1.6e-142;

Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 ANSFLEELRHSSLERECIEICDPEEAKELFQNVDDTLAFWSKRVGDCVLPLEHPCA 60  
 DB 1 ANSFLEELRHSSLERECIEICDPEEAKELFQNVDDTLAFWSKRVGDCVLPLEHPCA 60  
 QY 61 SLCCGSGTCTDGTGSGSCDCRSWGEGFQCFREVSFLNCSLDNGGCTHYCLEBVGRRSCC 120  
 DB 61 SLCCGSGTCTDGTGSGSCDCRSWGEGFQCFREVSFLNCSLDNGGCTHYCLEBVGRRSCC 120  
 QY 121 ARGYKLGDDLLQCHPAVAFPCGRPMKMEKSKSHKRTDEDOEDVDPLDGMATRRGG 180  
 DB 121 ARGYKLGDDLLQCHPAVAFPCGRPMKMEKSKSHKRTDEDOEDVDPLDGMATRRGG 180

QY 181 SPMQVLLDSKKKALACGAVLTHPSMTLTAHOMDESKKTLVRLGEVDLPRMKWETLDDI 240  
 DB 181 SPMQVLLDSKKKALACGAVLTHPSMTLTAHOMDESKKTLVRLGEVDLPRMKWETLDDI 240  
 QY 241 KEVFVHNYSKSTTNDIALHLAQPATLSQTTVEICLPDSGLAEELNQAQETLVYTW 300  
 DB 241 KEVFVHNYSKSTTNDIALHLAQPATLSQTTVEICLPDSGLAEELNQAQETLVYTW 300  
 QY 301 GHSSREKEAKRRNFTVNFILKIPVPHNECSEVSNVSNENMLCAGIIGDRQDACGDS 360  
 DB 301 GHSSREKEAKRRNFTVNFILKIPVPHNECSEVSNVSNENMLCAGIIGDRQDACGDS 360  
 QY 361 GSPWASFHTWTLVGTSMGCGLLAHYGVTVSVRYLDMHGRKXAPKSNAP 419  
 DB 361 GSPWASFHTWTLVGTSMGCGLLAHYGVTVSVRYLDMHGRKXAPKSNAP 419

RESULT 99  
 AAU99028  
 ID AAU99028 standard; protein; 419 AA.

AC AAU99028;

DT 23-AUG-2002 (first entry)

DE Human protein C zymogen protein mutant V243N/V245T.

KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.

OS Homo sapiens.  
 OS Synthetic.

XX Key Location/Qualifiers

FT Protein 1..155

FT Peptide /label= Light\_chain

FT Protein /label= Lys\_Arg\_dipeptide

FT Peptide /label= Heavy\_chain

FT Peptide /label= Activation\_peptide

FT Misc-difference 243 /note= "Wild-type Val substituted by Asn"

FT Misc-difference 245 /note= "Wild-type Val substituted by Thr"

PD WO200232461-A2.

PD 25-APR-2002.

PF 15-OCT-2001; 2001WO-DK000679.

PR 18-OCT-2000; 2000DK-00001560.

PR 18-OCT-2000; 2000US-0242268P.

PR 21-JUN-2001; 2001DK-00000970.

PR 21-JUN-2001; 2001US-0300154P.

PA (MAXY-) MAXYGEN ADS.

PA (MAXY-) MAXYGEN HOLDINGS LTD.

PI Andersen KV, Pedersen AH, Freaekgaard PO;

DR WPI; 2002-489875/52.

PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.

XX Claim 9; Page; 92pp; English.

XX The invention relates to a conjugate (I) comprising at least one non-  
XX polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
XX a protein C polypeptide comprising an amino acid sequence which differs  
XX from that of a parent protein C polypeptide (III) in at least one  
XX introduced and/or at least one removed amino acid residue comprising an  
XX attachment group for the non-polypeptide group (e.g. an N-glycosylation  
XX site). Also included are (1) a variant (IV) of (III) comprising a  
XX substitution in a position (p) where (p) is an amino acid with at least  
XX 25% of its side group exposed to the surface, with the proviso that the  
XX substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Ala/Thr/  
XX Tyr302Ser/Ala/Thr/His/Arg/Asn/Asp/Glu/Gln or Phe316Ser/Ala/Thr/  
XX His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
XX (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
XX comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
XX life of the serum half-life of a parent protein C polypeptide. The  
XX conjugates, variants and protein C proteins are useful as medicaments,  
XX and in the manufacture of medicaments for the treatment (and  
XX diagnosis/prevention) of stroke, myocardial infarction, after venous  
XX thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
XX shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
XX transplantation, burns, pregnancy, major surgery/trauma or adult  
XX respiratory distress syndrome (ARDS). The variant protein C has an  
XX increased resistance to activation by e.g. human plasma and alpha-1  
XX antitrypsin. The conjugates have an increased in vivo half-life  
XX increased serum half-life, increased resistance to inhibitors, reduced  
XX renal clearance, reduced immunogenicity and/or increased bioavailability.  
XX The conjugate offers a number of advantages over the currently available  
XX APC products, including longer duration between injections,  
XX administration of less protein, and fewer side effects. Moreover, a  
XX reduced anticoagulant activity is beneficial to reduce the risk of  
XX bleeding while maintaining the antiinflammatory activity of APC  
XX (activated protein C) conjugates. This must be especially important when  
XX the conjugate has an extended plasma life. The gene for protein C is  
XX located on chromosome 2q13-q14. The present sequence represents a zymogen  
XX protein C variant of the invention. Note: The present sequence is not  
XX shown in the specification but was created by the indexer using the  
XX protein C sequence appearing as AAU99002 and the information in claim 9  
XX  
XX Sequence 419 AA;

Query Match 99.5%; Score 2313; DB 5; Length 419;  
Best Local Similarity 99.5%; Pred. No. 1,6e-142;  
Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 ANSFLEELHNSLERECIETCDPEBAKIFQNDVDTLAFMSKHYVDGQCLVPLEHPCA 60  
DB 1 ANSFLEELHNSLERECIETCDPEBAKIFQNDVDTLAFMSKHYVDGQCLVPLEHPCA 60  
QY 61 SLCCGHGTCIDIGSFSCDGRSGMEGRFCQREVSFLNCSIDNGGCTHCLBEVGMRCSC 120  
DB 61 SLCCGHGTCIDIGSFSCDGRSGMEGRFCQREVSFLNCSIDNGGCTHCLBEVGMRCSC 120  
QY 121 APGYKGLDGLQCHPAVAFPCGRPMKMEKKRSLKRDDEDDQVDFRLIDKMTRRSD 180  
DB 121 APGYKGLDGLQCHPAVAFPCGRPMKMEKKRSLKRDDEDDQVDFRLIDKMTRRSD 180  
QY 181 SPQOVVILDSKKKACCAVLIHPSWLTAAHCHMESKGLVIRGEYDRLRMEKRELDLI 240  
DB 181 SPQOVVILDSKKKACCAVLIHPSWLTAAHCHMESKGLVIRGEYDRLRMEKRELDLI 240  
QY 241 KEVHPNYSKSTTNDIALHLAOPATISOTIPICLPDSGLARELNQOGDTIVTM 300  
DB 241 KEVHPNYSKSTTNDIALHLAOPATISOTIPICLPDSGLARELNQOGDTIVTM 300  
QY 301 GYHSSEKAKAKNTFVNIPIKIVVPHNECEVSNVSENNLCAGILGRDACEGSD 360  
DB 301 GYHSSEKAKAKNTFVNIPIKIVVPHNECEVSNVSENNLCAGILGRDACEGSD 360  
QY 361 GGPVVASFHGTWFLVGVSWGECGLHNHYGVTKYSRYLDMHHTIDKXAPQKSMAP 419  
DB 361 GGPVVASFHGTWFLVGVSWGECGLHNHYGVTKYSRYLDMHHTIDKXAPQKSMAP 419

DB 361 GGPVVASFHGTWFLVGVSWGECGLHNHYGVTKYSRYLDMHHTIDKXAPQKSMAP 419

RESULT 100  
AAU99011  
ID AAU99011 standard; protein; 419 AA.  
XX  
AC AAU99011;  
DT 23-AUG-2002 (first entry)  
XX  
DE Human Protein C zymogen protein mutant K192N/I194S.  
XX  
KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
KW bone marrow transplantation; major surgery; trauma; ADAS; coagulant;  
KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
XX  
OS Homo sapiens.  
OS Synthetic.  
XX  
FH Key Location/Qualifiers  
FT Protein 1..155  
FT Peptide /label= Light\_chain  
FT Peptide 156..157  
FT Peptide /label= Lys\_Arg\_dipeptide  
FT Protein 158..419  
FT Peptide /label= Heavy\_chain  
FT Peptide 158..169  
FT Peptide /label= Activation\_peptide  
FT Misc-difference 192  
FT Misc-difference 194 /note= "Wild-type Lys substituted by Asn"  
FT Misc-difference 194 /note= "Wild-type Leu substituted by Ser"  
XX  
PD WO200232461-A2.  
XX  
PD 25-APR-2002.  
XX  
PF 15-OCT-2001; 2001WO-DK000679.  
XX  
PF 18-OCT-2000; 2000DK-00001560.  
XX 18-OCT-2000; 2000US-0242268P.  
PR 21-JUN-2001; 2001DK-00000970.  
PR 21-JUN-2001; 2001US-0300154P.  
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XX (MAXY-) MAXYGEN APS.  
XX (MAXY-) MAXYGEN HOLDINGS LTD.  
XX  
PI Andersen KV, Pedersen AH, Friesgaard PO;  
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XX WPI; 2002-489875/52.  
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PT and myocardial infarction, comprises non-polypeptide group covalently  
PT attached to protein C polypeptide comprising an attachment group.  
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XX introduced and/or at least one removed amino acid residue comprising an  
XX attachment group for the non-polypeptide group (e.g. an N-glycosylation  
XX site). Also included are (1) a variant (IV) of (III) comprising a  
XX substitution in a position (p) where (p) is an amino acid with at least  
XX 25% of its side group exposed to the surface, with the proviso that the  
XX substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
XX Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
XX His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding



CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the anti-inflammatory activity of APC  
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 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
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 CC protein C sequence appearing as AAU99002 and the information in claim 9  
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 SQ Sequence 419 AA;

Query Match 99.5%; Score 2313; DB 5; Length 419;  
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 Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 ANSFLELRHSLRECEIEICDFEAKETQVNDPTLAFNSKEVDGQCLVPLEHCA 60  
 Db 1 ANSFLELRHSLRECEIEICDFEAKETQVNDPTLAFNSKEVDGQCLVPLEHCA 60  
 QY 61 SLCCGHGTCIDIGISFSCDGRSGWGRFCQREVSFLNCSLDNGGCTHYCLEEVGWRCSG 120  
 Db 61 SLCCGHGTCIDIGISFSCDGRSGWGRFCQREVSFLNCSLDNGGCTHYCLEEVGWRCSG 120  
 QY 121 APGYLGDLLQCHPAKPCGRPKMKMEKRSKSHLRDDEQDQVPRLLDSKMRBGD 180  
 Db 121 APGYLGDLLQCHPAKPCGRPKMKMEKRSKSHLRDDEQDQVPRLLDSKMRBGD 180  
 QY 121 APGYLGDLLQCHPAKPCGRPKMKMEKRSKSHLRDDEQDQVPRLLDSKMRBGD 180  
 Db 121 APGYLGDLLQCHPAKPCGRPKMKMEKRSKSHLRDDEQDQVPRLLDSKMRBGD 180  
 QY 181 SPQVVLDSKKKLACAVLHPSVWLTAAHCDKESKLLVLAGHYDRFWEKMELDLDI 240  
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 QY 241 KEVFHPNYSSTNDIALHLAQPATLSGTVPLCPDGLAREINAQGETLVGWM 300  
 Db 241 KEVFHPNYSSTNDIALHLAQPATLSGTVPLCPDGLAREINAQGETLVGWM 300  
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 Db 241 KEVFHPNYSSTNDIALHLAQPATLSGTVPLCPDGLAREINAQGETLVGWM 300  
 QY 301 GHSSSEKAKRNTPTLNFIRKIPVPHNECESEVMNMSNMCAGLIGDRDQACEGDS 360  
 Db 301 GHSSSEKAKRNTPTLNFIRKIPVPHNECESEVMNMSNMCAGLIGDRDQACEGDS 360  
 QY 361 GGPVVASFHGTWFLVGLVWSGECGLHNVGYTKVRYLDMWIGHSHIRDEAPQKSWAP 419  
 Db 361 GGPVVASFHGTWFLVGLVWSGECGLHNVGYTKVRYLDMWIGHSHIRDEAPQKSWAP 419

RESULT 102  
 AAU99084  
 ID AAU99084 standard; protein; 419 AA.  
 XX  
 AC AAU99084;  
 XX  
 DT 23-AUG-2002 (first entry)  
 XX  
 DE Human Protein C zymogen protein mutant R352N/D354T.  
 XX  
 KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 XX  
 OS Synthetic.  
 XX  
 PH Key Location/Qualifiers  
 FT Protein 1..155  
 FT Peptide /label= Lys\_arg\_chain  
 FT /label= Lys\_Arg\_dipeptide  
 FT Protein 158..419  
 FT /label= Heavy\_chain

FT Peptide 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 352  
 FT /note= "Wild-type Arg substituted by Asn"  
 FT Misc-difference 354  
 FT /note= "Wild-type Asp substituted by Thr"  
 EN WO200232461-A2.  
 XX  
 PD 25-APR-2002.  
 XX  
 PF 15-OCT-2001; 2001WO-DK00679.  
 XX  
 PR 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-024268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 XX  
 PI Andersen KV, Pedersen AH, Friesgaard PO;  
 XX WPI; 2002-489875/52.  
 XX  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 PS Claim 9; Page; 92pp; English.  
 XX  
 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC His/Lys/Arg/Asn/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe168Ser/Ala/Thr/  
 CC Tyr102Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe168Ser/Ala/Thr/  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the anti-inflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 CC  
 SQ Sequence 419 AA;

Query Match 99.5%; Score 2312; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1,6e-142;

Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 ANSFLERHSSLERECIEEICDFEAKKEIFQVNDPTLAWSKVDQCLVLEHPQA 60  
 DB 1 ANSFLERHSSLERECIEEICDFEAKKEIFQVNDPTLAWSKVDQCLVLEHPQA 60  
 QY 61 SLCCGHTCTIDIGSFCDCRSWGEGPCQREVSFLNCSLDNGGCTHYCLEEVMRRCSG 120  
 DB 61 SLCCGHTCTIDIGSFCDCRSWGEGPCQREVSFLNCSLDNGGCTHYCLEEVMRRCSG 120  
 QY 121 APGYKGLDILQCHPAVFPCCGRPMKMEKRSKSLKEDTEDQEDQVPRLLIDKMTRRGD 180  
 DB 121 APGYKGLDILQCHPAVFPCCGRPMKMEKRSKSLKEDTEDQEDQVPRLLIDKMTRRGD 180  
 QY 181 SPWQVVLDSKKKLACGAVLIHPSWVLTAAHOMESKLLVRLGEVDLRMEKELDDI 240  
 DB 181 SPWQVVLDSKKKLACGAVLIHPSWVLTAAHOMESKLLVRLGEVDLRMEKELDDI 240  
 QY 241 KEVFAHNVSKSTTNDIALHLAOPATLSQTIYVICLPDGLAEREINQAGQETLVTCM 300  
 DB 241 KEVFAHNVSKSTTNDIALHLAOPATLSQTIYVICLPDGLAEREINQAGQETLVTCM 300  
 QY 301 GYHSSREKAKNRFTFVNIKIPVVPNECSEVSNMVSNNLCAGLIGRQDACEGDS 360  
 DB 301 GYHSSREKAKNRFTFVNIKIPVVPNECSEVSNMVSNNLCAGLIGRQDACEGDS 360  
 QY 361 GGPWVASFHGTWFIQVMSGEGCGLLHNGYVTKVSRYLDMTHGHIDKREAPQKSWAP 419  
 DB 361 GGPWVASFHGTWFIQVMSGEGCGLLHNGYVTKVSRYLDMTHGHIDKREAPQKSWAP 419

RESULT 103  
 AAU99061  
 ID AAU99061 standard; protein, 419 AA.  
 AC AAU99061;  
 DT 23-AUG-2002 (first entry)  
 XX  
 DE Human Protein C zymogen protein mutant A310N/R312S.  
 XX  
 KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW atherosclerosis; disseminated intravascular coagulation; DIC;  
 KW septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW acute respiratory distress syndrome; alpha-1 antitrypsin; mutant; protein.  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 PH Key Location/Qualifiers  
 FT Protein 1..155  
 FT Peptide /label= Light\_chain  
 FT Peptide /label= Lys\_Arg\_dipeptide  
 FT Protein /label= Lys\_Arg\_dipeptide  
 FT Peptide /label= Heavy\_chain  
 FT Peptide /label= 158..169  
 FT Misc-difference 310 /label= Activation peptide  
 FT Misc-difference 312 /note= "Wild-type Ala substituted by Asn"  
 FT Misc-difference 312 /note= "Wild-type Arg substituted by Ser"  
 XX  
 XX NO200232461-A2.  
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 XX 25-APR-2002.  
 XX  
 XX 15-OCT-2001; 2001MO-DK000679.  
 XX  
 XX 18-OCT-2000; 2000DK-00001560.  
 XX  
 XX 18-OCT-2000; 2000US-0242268P.

PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 XX (MAXY-) MAXYGEN APPS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 XX  
 PI Andersen KV, Pedersen AH, Freskgaard PO;  
 DR WPI; 2002-489675/52.  
 XX  
 XX Novel conjugate useful for treating or preventing septic shock, stroke  
 PR and myocardial infarction, comprises non-polypeptide group covalently  
 PR attached to protein C polypeptide comprising an attachment group.  
 XX  
 PS Claim 9; Page; 92pp; English.  
 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections.  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the anti-inflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 XX  
 XX Sequence 419 AA;  
 SQ  
 Query Match 99.5%; Score 2312; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1, 8e-142;  
 Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 ANSFLERHSSLERECIEEICDFEAKKEIFQVNDPTLAWSKVDQCLVLEHPQA 60  
 DB 1 ANSFLERHSSLERECIEEICDFEAKKEIFQVNDPTLAWSKVDQCLVLEHPQA 60  
 QY 61 SLCCGHTCTIDIGSFCDCRSWGEGPCQREVSFLNCSLDNGGCTHYCLEEVMRRCSG 120  
 DB 61 SLCCGHTCTIDIGSFCDCRSWGEGPCQREVSFLNCSLDNGGCTHYCLEEVMRRCSG 120  
 QY 121 APGYKGLDILQCHPAVFPCCGRPMKMEKRSKSLKEDTEDQEDQVPRLLIDKMTRRGD 180  
 DB 121 APGYKGLDILQCHPAVFPCCGRPMKMEKRSKSLKEDTEDQEDQVPRLLIDKMTRRGD 180  
 QY 181 SPWQVVLDSKKKLACGAVLIHPSWVLTAAHOMESKLLVRLGEVDLRMEKELDDI 240



Db 181 SPWQVLLDSKKKACGAVLIHPSWVLTAAHCDMSKKLLVRLGTYLRRWEKELDLDI 240  
QY 241 KEVFVHNYSKSTNDNDIALHLAQPATLSQTVICLPDGSIAERLNAGQETLVYGM 300  
Db 241 KEVFVHNYSKSTNDNDIALHLAQPATLSQTVICLPDGSIAERLNAGQETLVYGM 300  
QY 301 GYHSSREKEAKRNRTFVNFIKIPVPHNECESEVMNMYSENNLCAGILGRDACEGDS 360  
Db 301 GYHSSREKENSNRTFVNFIKIPVPHNECESEVMNMYSENNLCAGILGRDACEGDS 360  
QY 361 GGPWVASFHGTWFLVGLVSWGEGCGLAHNYGVYTKVSRYLDMWIGHIRDEKAPQKSWAP 419  
Db 361 GGPWVASFHGTWFLVGLVSWGEGCGLAHNYGVYTKVSRYLDMWIGHIRDEKAPQKSWAP 419  
RESULT 104  
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ID AAU99046 standard; protein: 419 AA.  
AC AAU99046;  
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XX 23-AUG-2002 (first entry)  
DE Human Protein C zymogen protein mutant Y302N/S304T.  
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XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
KM serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
KM after venous thrombosis; disseminated intravascular coagulation; DIC;  
KM sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
KM bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
XX adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; neutrin.  
OS Homo sapiens.  
XX  
XX Synthetic.  
FH Key Location/Qualifiers  
FT Protein 1..155  
FT Peptide /label= Light\_chain  
FT Peptide 156..157  
FT Protein /label= Lys\_Arg\_dipeptide  
FT Peptide 158..419  
FT Peptide /label= Heavy\_chain  
FT Peptide 158..169  
FT /label= Activation\_peptide  
FT Misc-difference 302  
FT /note= "Wild-type Tyr substituted by Asn"  
FT Misc-difference 304 /note= "Wild-type Ser substituted by Thr"  
XX  
XX WO200232461-A2.  
XX  
XX 25-APR-2002.  
XX  
XX 15-OCT-2001; 2001MO-DK000679.  
XX  
XX 18-OCT-2000; 2000DK-00001560.  
XX 18-OCT-2000; 2000US-0242268P.  
XX 21-JUN-2001; 2001DK-00000970.  
XX 21-JUN-2001; 2001US-0300154P.  
XX  
XX (MAXY-) MAXYGEN ABS.  
XX (MAXY-) MAXYGEN HOLDINGS LTD.  
XX  
XX Andersen KV, Pedersen AH, Freaugaard PO;  
XX  
XX MPI; 2002-489875/52.  
XX  
XX Novel conjugate useful for treating or preventing septic shock, stroke  
XX and myocardial infarction, comprises non-polypeptide group covalently  
XX attached to protein C polypeptide comprising an attachment group.  
XX  
XX Claim 9; Page; 92pp; English.

XX The invention relates to a conjugate (I) comprising at least one non-  
CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
CC a protein C polypeptide comprising an amino acid sequence which differs  
CC from that of a parent protein C polypeptide (III) in at least one  
CC introduced and/or at least one removed amino acid residue comprising an  
CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
CC site). Also included are (1) a variant (IV) of (III) comprising a  
CC substitution in a position (p) where (p) is an amino acid with at least  
CC 25% of its side group exposed to the surface, with the proviso that the  
CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln/  
CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
CC life or the serum half-life of a parent protein C polypeptide. The  
CC conjugates, variants and protein C proteins are useful as medicaments,  
CC and in the manufacture of medicaments for the treatment (and  
CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
CC transplantation, burns, pregnancy, major surgery/trauma or adult  
CC respiratory distress syndrome (ARDS). The variant protein C has an  
CC increased resistance to activation by e.g. human plasma and alpha-1  
CC antitrypsin. The conjugates have an increased in vivo half-life,  
CC increased serum half-life, increased resistance to inhibitors, reduced  
CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
CC The conjugate offers a number of advantages over the currently available  
CC APC products, including longer duration between injections,  
CC administration of less protein, and fewer side effects. Moreover, a  
CC decreased anticoagulant activity is beneficial to reduce the risk of  
CC bleeding while maintaining the antiinflammatory activity of APC  
CC (activated protein C) conjugates. This must be especially important when  
CC the conjugate has an extended plasma life. The gene for protein C is  
CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
CC protein C variant of the invention. Note: The present sequence is not  
CC shown in the specification but was created by the indexer using the  
CC protein C sequence appearing as AAU99002 and the information in claim 9  
XX  
XX Sequence 419 AA:  
SQ  
Query Match 99.5%; Score 2312; DB 5; Length 419;  
Best Local Similarity 99.5%; Pred. No. 1.8e-142;  
Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;  
QY 1 ANSFLEIRHSSLEKECEIEICDFEAKETIFQNYDDTLAFMSKRYDQCVLPLEHPCA 60  
Db 1 ANSFLEIRHSSLEKECEIEICDFEAKETIFQNYDDTLAFMSKRYDQCVLPLEHPCA 60  
QY 61 SLCCGHTCIDIGISFSCDGRSGMBGRFCQREVFSLNCSDNGGCTHYCLEEVMRRCSC 120  
Db 61 SLCCGHTCIDIGISFSCDGRSGMBGRFCQREVFSLNCSDNGGCTHYCLEEVMRRCSC 120  
QY 121 APGYKAGDDLQCHPAVYFPCGRPMRMEKRSKSLKPTEDQEDQYDRLIDGKMTRRGD 180  
Db 121 APGYKAGDDLQCHPAVYFPCGRPMRMEKRSKSLKPTEDQEDQYDRLIDGKMTRRGD 180  
QY 181 SPWQVLLDSKKKACGAVLIHPSWVLTAAHCDMSKKLLVRLGTYLRRWEKELDLDI 240  
Db 181 SPWQVLLDSKKKACGAVLIHPSWVLTAAHCDMSKKLLVRLGTYLRRWEKELDLDI 240  
QY 241 KEVFVHNYSKSTNDNDIALHLAQPATLSQTVICLPDGSIAERLNAGQETLVYGM 300  
Db 241 KEVFVHNYSKSTNDNDIALHLAQPATLSQTVICLPDGSIAERLNAGQETLVYGM 300  
QY 301 GYHSSREKEAKRNRTFVNFIKIPVPHNECESEVMNMYSENNLCAGILGRDACEGDS 360  
Db 301 GYHSSREKEAKRNRTFVNFIKIPVPHNECESEVMNMYSENNLCAGILGRDACEGDS 360  
QY 361 GGPWVASFHGTWFLVGLVSWGEGCGLAHNYGVYTKVSRYLDMWIGHIRDEKAPQKSWAP 419  
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RESULT 105
AAU99062
ID AAU99062 standard; protein; 419 AA.
XX
XX AAU99062;
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XX 23-AUG-2002 (first entry)
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XX Human Protein C zymogen protein mutant A310N/R312T.
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XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;
XX serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;
XX after venous thrombosis; disseminated intravascular coagulation; DIC;
XX sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;
XX bone marrow transplantation; major surgery; trauma; ARDS; coagulant;
XX adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; muten.
XX
XX Homo sapiens.
XX Synthetic.
XX
XX Key Location/Qualifiers
XX Protein 1..155
XX Peptide /label= Light_chain
XX /label=.157
XX Protein /label= Lys_Arg_dipeptide
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XX Peptide /label= Heavy_chain
XX /label=.169
XX
XX Misc-difference 310
XX /label= Activation peptide
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XX Misc-difference 312
XX /note= "Wild-type Ala substituted by Asn"
XX
XX Msc-difference 312
XX /note= "Wild-type Arg substituted by Thr"
XX
XX W0200232461-A2.
XX
XX 25-APR-2002.
XX
XX 15-OCT-2001; 2001MO-DK000679.
XX
XX 18-OCT-2000; 2000DK-00001560.
XX 18-OCT-2000; 2000US-0242268P.
XX 21-JUN-2001; 2001DK-00000970.
XX 21-JUN-2001; 2001US-0300154P.
XX
XX (MAXY-) MAXYGEN APS.
XX (MAXY-) MAXYGEN HOLDINGS LTD.
XX
XX Andersen XV, Pedersen AH, Freskgaard PO;
XX WPI; 2002-489875/52.
XX
XX Novel conjugate useful for treating or preventing septic shock, stroke
XX and myocardial infarction, comprises non-polypeptide group covalently
XX attached to protein C polypeptide comprising an attachment group.
XX
XX Claim 9; Page; 92pp; English.
XX
XX The invention relates to a conjugate (I) comprising at least one non-
XX polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to
XX a protein C polypeptide comprising an amino acid sequence which differs
XX from that of a parent protein C polypeptide (III) in at least one
XX introduced and/or at least one removed amino acid residue comprising an
XX attachment group for the non-polypeptide group (e.g. an N-glycosylation
XX site). Also included are (I) a variant (IV) of (III) comprising a
XX substitution in a position (P) where (P) is an amino acid with at least
XX 2% of its side group exposed to the surface, with the proviso that the
XX substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,
XX Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/
XX His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding
XX (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)
XX comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-

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CC life or the serum half-life of a parent protein C polypeptide. The
CC conjugates, variants and protein C proteins are useful as medicaments,
CC and in the manufacture of medicaments for the treatment (and
CC diagnosis/prevention) of stroke, myocardial infarction, after venous
CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic
CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow
CC transplantation, burns, pregnancy, major surgery/trauma or adult
CC respiratory distress syndrome (ARDS). The variant protein C has an
CC increased resistance to activation by e.g. human plasma and alpha-1
CC antitrypsin. The conjugates have an increased in vivo half-life,
CC increased serum half-life, increased resistance to inhibitors, reduced
CC renal clearance, reduced immunogenicity and/or increased bioavailability.
CC The conjugate offers a number of advantages over the currently available
CC APC products, including longer duration between injections,
CC administration of less protein, and fewer side effects. Moreover, a
CC reduced anticoagulant activity is beneficial to reduce the risk of
CC bleeding while maintaining the antiinflammatory activity of APC
CC (activated protein C) conjugates. This must be especially important when
CC the conjugate has an extended plasma life. The gene for protein C is
CC located on chromosome 2q13-q14. The present sequence represents a zymogen
CC protein C variant of the invention. Note: The present sequence is not
CC shown in the specification but was created by the indexer using the
CC protein C sequence appearing as AAU99002 and the information in claim 9
XX
XX Sequence 419 AA:
XX
XX Query Match 99.5%; Score 2312; DB 5; Length 419;
XX Best Local Similarity 99.5%; Pred. No. 1.8e-142;
XX Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
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XX QY 1 ANSFLELRHSLRECEIEICDFEAKEIFQVNDTLTAFMSKHYVDQCLVPLRHPCA 60
XX DB 1 ANSFLELRHSLRECEIEICDFEAKEIFQVNDTLTAFMSKHYVDQCLVPLRHPCA 60
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XX DB 61 SLCCGHGTCITIGISPSCCCRSGMGFRPCOREVSPFANGSLDNGCTHYCLIEVGMKRCSC 120
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XX QY 121 APGYKLGDLLQCHPAKFPCCGRPMKMEKKRSHLRDTEDEQDVPRLIDGKMTRRGD 180
XX DB 121 APGYKLGDLLQCHPAKFPCCGRPMKMEKKRSHLRDTEDEQDVPRLIDGKMTRRGD 180
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XX QY 121 APGYKLGDLLQCHPAKFPCCGRPMKMEKKRSHLRDTEDEQDVPRLIDGKMTRRGD 180
XX DB 121 APGYKLGDLLQCHPAKFPCCGRPMKMEKKRSHLRDTEDEQDVPRLIDGKMTRRGD 180
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XX QY 181 SPWQVLLDSKKKLACGAVLHPSWVLTAAHCDKESKLLVGLGYDLRMEKMEIDLDI 240
XX DB 181 SPWQVLLDSKKKLACGAVLHPSWVLTAAHCDKESKLLVGLGYDLRMEKMEIDLDI 240
XX
XX QY 241 KEVFAHPNYSSTTNDIALHLAOPATLSQTVPLCLPDGSLARELNOAGGETLVGM 300
XX DB 241 KEVFAHPNYSSTTNDIALHLAOPATLSQTVPLCLPDGSLARELNOAGGETLVGM 300
XX
XX QY 301 GYHSREKEAKRNRTFVNFIKIPVVPNECSSEVMNMTSENNLCAGILGDRDACEGDS 360
XX DB 301 GYHSREKEAKRNRTFVNFIKIPVVPNECSSEVMNMTSENNLCAGILGDRDACEGDS 360
XX
XX QY 361 GGPWVASFHGTWFLVGLVWSGCGLLHNGVTTYKLSRLDWMHGHIDKAEQKXMAP 419
XX DB 361 GGPWVASFHGTWFLVGLVWSGCGLLHNGVTTYKLSRLDWMHGHIDKAEQKXMAP 419
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XX RESULT 106
XX AAU99038
XX ID AAU99038 standard; protein; 419 AA.
XX
XX AAU99038;
XX
XX 23-AUG-2002 (first entry)
XX
XX Human Protein C zymogen protein mutant T253N/D255T.
XX
XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;
XX serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;
XX after venous thrombosis; disseminated intravascular coagulation; DIC;
XX sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;

```

KM bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 XX Synthetic.  
 XX  
 XX Key Location/Qualifiers  
 FT Protein 1..155  
 FT /label= light\_chain  
 FT Peptide 156..157  
 FT /label= Lys\_Arg\_dipeptide  
 FT Protein 158..419  
 FT /label= Heavy\_chain  
 FT Peptide 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 253  
 FT /note= "Wild-type Thr substituted by Asn"  
 FT Misc-difference 255  
 FT /note= "Wild-type Asp substituted by Thr"  
 XX  
 XX W0200232461-A2.  
 PD 25-APR-2002.  
 PF 15-OCT-2001; 2001WO-DK00679.  
 PR 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 PI  
 PI Andersen KV, Federsen AH, Fresgaard PO;  
 DR WPI; 2002-489875/52.  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 PS Claim 9; Page; 92pp; English.  
 XX  
 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr45Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe16Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a

CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 SQ Sequence 419 AA;  
 Query Match 99.5%; Score 2312; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1.8e-142;  
 Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
 QY 1 ANSTLEHSHSLSEPCIEICDPERAKETQNDPTLAWSHYDQGCIVPLEHPCA 60  
 DB 1 ANSFLEHSHSLSEPCIEICDPERAKETQNDPTLAWSHYDQGCIVPLEHPCA 60  
 QY 61 SLCCGHTCIDIIGSFSCDRCSEGRFCOREVGFNLCSLDNGCTHYCLBEVGMRCSC 120  
 DB 61 SLCCGHTCIDIIGSFSCDRCSEGRFCOREVGFNLCSLDNGCTHYCLBEVGMRCSC 120  
 QY 121 APGYKLGDDILQCHPAVFPQGRPMWRMEKRSKSHKEDTEDQDQVDPRLIDGKMTREGD 180  
 DB 121 APGYKLGDDILQCHPAVFPQGRPMWRMEKRSKSHKEDTEDQDQVDPRLIDGKMTREGD 180  
 QY 181 SPQVVLTLDSKKKACGAVLIHPSWLTAAHOMESKLLVLRGEVDLRMEKVELLDI 240  
 DB 181 SPQVVLTLDSKKKACGAVLIHPSWLTAAHOMESKLLVLRGEVDLRMEKVELLDI 240  
 QY 241 KEVFHPNYSKSTNDIALHLAOPATLSQTIYVICLPDPSGLAEHLNQAQGETLVGM 300  
 DB 241 KEVFHPNYSKSTNDIALHLAOPATLSQTIYVICLPDPSGLAEHLNQAQGETLVGM 300  
 QY 301 GYHSSREKAKRRRTFVNFTKIPVPHNEGSEVMSNVSNNLCAGLIGROPACGGS 360  
 DB 301 GYHSSREKAKRRRTFVNFTKIPVPHNEGSEVMSNVSNNLCAGLIGROPACGGS 360  
 QY 361 GGPVWASFHGTPIVLGLVSMWEGCGLLHNYGYTFVSRVLDWTHGIRDKAPQSWAP 419  
 DB 361 GGPVWASFHGTPIVLGLVSMWEGCGLLHNYGYTFVSRVLDWTHGIRDKAPQSWAP 419  
 DE Human Protein C zymogen protein mutant G383N/G385S.  
 XX  
 XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KM serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KM after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KM sepsis; septic shock; embolism; pulmonary embolism; burns; pregnancy;  
 KM bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KM adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 XX Key Location/Qualifiers  
 FT Protein 1..155  
 FT /label= light\_chain  
 FT Peptide 156..157  
 FT /label= Lys\_Arg\_dipeptide  
 FT Protein 158..419  
 FT /label= Heavy\_chain  
 FT Peptide 158..169  
 FT /label= Activation\_peptide

FT Misc-difference 383 /note= "Wild-type Gly substituted by Asn"  
 FT FT Misc-difference 385 /note= "Wild-type Gly substituted by Ser"  
 XX W0200232461-A2.  
 XX 25-APR-2002.  
 XX 15-OCT-2001; 2001W0-DK000679.  
 XX 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 P1 Andersen KV, Pedersen AH, Freskgaard PO;  
 DR WPI; 2002-489875/52.  
 XX Novel conjugate useful for treating or preventing septic shock, stroke  
 FT and myocardial infarction, comprises non-polypeptide group covalently  
 FT attached to protein C polypeptide comprising an attachment group.  
 XX Claim 9; Page; 92pp; English.  
 XX The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (I) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr325Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) Increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistant to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX Sequence 419 AA;  
 SQ

QY 1 ANSFLEELRHSSLERECIEICDEFEAKETIFQVNDTLAFMSKIVDGDQCLVLPLEHCA 60  
 Db 1 ANSFLEELRHSSLERECIEICDEFEAKETIFQVNDTLAFMSKIVDGDQCLVLPLEHCA 60  
 QY 61 SLCCGHGTCTDIDIGSSCDGRSGWGRFCQREVSFLNSDNGCTHYCLEEYWRRCSC 120  
 Db 61 SLCCGHGTCTDIDIGSSCDGRSGWGRFCQREVSFLNSDNGCTHYCLEEYWRRCSC 120  
 QY 121 APGYVLGDDLLQCHPVPKPCGRPMKMEKRSHLRDTEQEDQVDPRLIDKMTRRGD 180  
 Db 121 APGYVLGDDLLQCHPVPKPCGRPMKMEKRSHLRDTEQEDQVDPRLIDKMTRRGD 180  
 QY 181 SPQGVLLDSKKKLACAVLTHPSVLTAAHCDSDSKLLVRLGEYLRREKMELELDI 240  
 Db 181 SPQGVLLDSKKKLACAVLTHPSVLTAAHCDSDSKLLVRLGEYLRREKMELELDI 240  
 QY 241 KEVFEHNYKSKSTTDNDIALHLAQPATLSQTTVPICLPDSGLAREILNQAQETLVWG 300  
 Db 241 KEVFEHNYKSKSTTDNDIALHLAQPATLSQTTVPICLPDSGLAREILNQAQETLVWG 300  
 QY 301 GYHSSREKAKRRTVNLNFIKIPVPHNCSRWMSNMVSNMLCAGILGRDQACRGS 360  
 Db 301 GYHSSREKAKRRTVNLNFIKIPVPHNCSRWMSNMVSNMLCAGILGRDQACRGS 360  
 QY 361 GGPVVASFHGTWELVGLVSMGEGCLAHNYGYTVKXRYLDMIGHIIRDKEAPQKSMAP 419  
 Db 361 GGPVVASFHGTWELVGLVSMGEGCLAHNYGYTVKXRYLDMIGHIIRDKEAPQKSMAP 419  
 XX RESULT 108  
 AAU99086  
 ID AAU99086 standard; protein; 419 AA.  
 XX  
 AC AAU99086;  
 DT 23-AUG-2002 (first entry)  
 XX  
 XX Human Protein C zymogen protein mutant E357N/D359T.  
 DE  
 XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 XX Synthetic.  
 FH Key Location/Qualifiers  
 FH FT Protein 1..155  
 FT FT Peptide 156..157  
 FT FT Peptide /label= Lys\_Arg\_dipeptide  
 FT FT Protein 158..419  
 FT FT Peptide /label= Heavy\_chain  
 FT FT Peptide 158..169  
 FT FT Peptide /label= Activation\_peptide  
 FT FT Misc-difference 357 /note= "Wild-type Glu substituted by Asn"  
 FT FT Misc-difference 359 /note= "Wild-type Asp substituted by Thr"  
 XX W0200232461-A2.  
 XX 25-APR-2002.  
 XX 15-OCT-2001; 2001W0-DK000679.  
 XX 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.



polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to a protein C polypeptide comprising an amino acid sequence which differs from that of a parent protein C polypeptide (III) in at least one introduced and/or at least one removed amino acid residue comprising an attachment group for the non-polypeptide group (e.g. an N-glycosylation site). Also included are (1) a variant (IV) of (III) comprising a substitution in a position (p) where (p) is an amino acid with at least 25% of its side group exposed to the surface, with the proviso that the substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln. The Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding (VI); (3) an expression vector (VI) comprising (V); (4) a host cell (VII) comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-life or the serum half-life of a parent protein C polypeptide. The conjugates, variants and protein C proteins are useful as medicaments, and in the manufacture of medicaments for the treatment (and diagnosis/prevention) of stroke, myocardial infarction, after venous thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow transplantation, burns, pregnancy, major surgery/trauma or adult respiratory distress syndrome (ARDS). The variant protein C has an increased resistance to activation by e.g. human plasma and alpha-1 antitrypsin. The conjugates have an increased in vivo half-life, increased serum half-life, increased resistance to inhibitors, reduced renal clearance, reduced immunogenicity and/or increased bioavailability. The conjugate offers a number of advantages over the currently available APC products, including longer duration between injections. Moreover, a reduced anticoagulant activity is beneficial to reduce the risk of bleeding while maintaining the antiinflammatory activity of APC (activated protein C) conjugates. This must be especially important when the conjugate has an extended plasma life. The gene for protein C is located on chromosome 2q13-q14. The present sequence represents a zymogen protein C variant of the invention. Note: The present sequence is not shown in the specification but was created by the indexer using the protein C sequence appearing as AA099002 and the information in claim 9

Sequence 419 AA:

Query Match 99.5%; Score 2312; DB 5; Length 419;  
Best Local Similarity 99.5%; Pred. No. 1.8e-142;  
Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSFLEELRHSSLEKECEIEICDPEEAKELFQVNDTLAFWSKVDGQCLVPLEHPCA 60  
DB 1 ANSFLEELRHSSLEKECEIEICDPEEAKELFQVNDTLAFWSKVDGQCLVPLEHPCA 60  
QY 61 SLCCGHTCIDIGISGSCDCRSGWESFQREVSFLANSLDNGCTHYCLAEVGRRCSC 120  
DB 61 SLCCGHTCIDIGISGSCDCRSGWESFQREVSFLANSLDNGCTHYCLAEVGRRCSC 120  
QY 121 AFGYLGDDLLQCHPAVKFPGCPKMKMEKKS9HKLDTPEQEOVDPELIDGKMTTRGD 180  
DB 121 AFGYLGDDLLQCHPAVKFPGCPKMKMEKKS9HKLDTPEQEOVDPELIDGKMTTRGD 180  
QY 181 SFWQVLLDSKKKLAGAVLIHPSWVLTAAHCDSESKLVLRLGEYDLRMEKMWELDI 240  
DB 181 SFWQVLLDSKKKLAGAVLIHPSWVLTAAHCDSESKLVLRLGEYDLRMEKMWELDI 240  
QY 241 KEVFHRYVSKSTTDDIALHLAQPATLSQTVPLCLPDSGLAEPLDQAQETLYTGW 300  
DB 241 KEVFHRYVSKSTTDDIALHLAQPATLSQTVPLCLPDSGLAEPLDQAQETLYTGW 300  
QY 301 GYHSREKEAKRRRTVNLFIKIPVPHNECSFVSNMNSMNLCAIGLGDQDCEGDS 360  
DB 301 GYHSREKEAKRRRTVNLFIKIPVPHNECSFVSNMNSMNLCAIGLGDQDCEGDS 360  
QY 361 GEPVYASFHGTWELVGLVSWGGGGLAHNTGVYTKVSRYLDMIGHIRLKEAPQKSWAP 419  
DB 361 GEPVYASFHGTWELVGLVSWGGGGLAHNTGVYTKVSRYLDMIGHIRLKEAPQKSWAP 419

RESULT 110

AAU99042  
ID AAU99042 standard; protein; 419 AA.  
XX  
XX AC AAU99042;  
XX  
DT 23-AUG-2002 (first entry)  
XX  
DE Human Protein C zymogen protein mutant D255N/D257T.  
XX  
OS Homo sapiens.  
OS Synthetic.  
XX  
FH Key Location/Qualifiers  
FT 1..155  
FT Protein /label= Light\_chain  
FT 156..157  
FT Peptide /label= Lys\_Arg\_dipeptide  
FT 158..419  
FT Protein /label= Heavy\_chain  
FT 158..169  
FT Peptide /label= Activation\_peptide  
FT Misc-difference 255 /note= "Wild-type Asp substituted by Asn"  
FT FT Misc-difference 257 /note= "Wild-type Asp substituted by Thr"  
FT FT  
XX W0200232461-A2.  
XX  
XX 15-OCT-2001; 2001WO-DK000679.  
XX PF  
XX 18-OCT-2000; 2000DK-00001560.  
XX PR 18-OCT-2000; 2000US-0242268P.  
XX PR 21-JUN-2001; 2001US-00009370.  
XX PR 21-JUN-2001; 2001US-0300154P.  
XX  
XX (MAXY-) MAXYGEN APS.  
XX PA (MAXY-) MAXYGEN HOLDINGS LTD.  
XX  
XX Andersen KV, Pedersen AH, Friesgaard PO;  
XX  
XX WPI; 2002-489875/52.  
XX  
XX Novel conjugate useful for treating or preventing septic shock, stroke  
XX and myocardial infarction, comprises non-polypeptide group covalently  
XX attached to protein C polypeptide comprising an attachment group.  
XX  
XX Claim 9; Page: 92pp; English.  
XX  
XX The invention relates to a conjugate (I) comprising at least one non-  
XX polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
XX a protein C polypeptide comprising an amino acid sequence which differs  
XX from that of a parent protein C polypeptide (III) in at least one  
XX introduced and/or at least one removed amino acid residue comprising an  
XX attachment group for the non-polypeptide group (e.g. an N-glycosylation  
XX site). Also included are (1) a variant (IV) of (III) comprising a  
XX substitution in a position (p) where (p) is an amino acid with at least  
XX 25% of its side group exposed to the surface, with the proviso that the  
XX substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln.  
XX Tyros302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
XX His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
XX (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
XX comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
XX life or the serum half-life of a parent protein C polypeptide. The  
XX conjugates, variants and protein C proteins are useful as medicaments,

CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU9902 and the information in claim 9  
 XX

80 Sequence 419 AA:

Query Match 99.5%; Score 2312; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 1.8e-142;  
 Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSFLRELHSSLEECIEETCDPEAKETIQNDPTLAWSRHVDGQCLVPLEHPQA 60  
 Db 1 ANSFLRELHSSLEECIEETCDPEAKETIQNDPTLAWSRHVDGQCLVPLEHPQA 60  
 QY 61 SLCCGHTCIDIGISFSCDGRSGMEGRFCQREVSFLNCSLDNGGCTHCLREVMGRCSG 120  
 Db 61 SLCCGHTCIDIGISFSCDGRSGMEGRFCQREVSFLNCSLDNGGCTHCLREVMGRCSG 120  
 QY 121 APGKLGDDLLQCHPAVFPQGRPMRMEKRRSHLKDTEDQDQVDRLLIDGKMTRRGD 180  
 Db 121 APGKLGDDLLQCHPAVFPQGRPMRMEKRRSHLKDTEDQDQVDRLLIDGKMTRRGD 180  
 QY 181 SPWQVVLDSKKKACAVLIHPSWLTAAHOMESKKLVRLGEVDRREKWEKLDLI 240  
 Db 181 SPWQVVLDSKKKACAVLIHPSWLTAAHOMESKKLVRLGEVDRREKWEKLDLI 240  
 QY 241 KEVVEHPNYSKSTNDIALHLAPATLSQTIYPICLPDSGLARELNQAGCTVATWG 300  
 Db 241 KEVVEHPNYSKSTNDIALHLAPATLSQTIYPICLPDSGLARELNQAGCTVATWG 300  
 QY 301 GYHSREKAKNRFTFVNIFIKIPVPHNEGSEWMSNVSNNMLCAGILGRDQACGDS 360  
 Db 301 GYHSREKAKNRFTFVNIFIKIPVPHNEGSEWMSNVSNNMLCAGILGRDQACGDS 360  
 QY 361 GGPVVASFHGTFTLVGLVSWGEGGLHNYGYTKVSRDYDTHGHIDKRAPOKSWAP 419  
 Db 361 GGPVVASFHGTFTLVGLVSWGEGGLHNYGYTKVSRDYDTHGHIDKRAPOKSWAP 419

RESULT 111

AAU99026  
 ID AAU99026 standard; protein. 419 AA.

XX  
 AC AAU99026;  
 DT 23-AUG-2002 (first entry)

XX Human Protein C zymogen protein mutant L220N/R222T.

XX Human, Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KM serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KM after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KM sepsis; septic shock; embolism; pulmonary major surgery; trauma; ARDS; coagulant;  
 KM bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KM adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.

XX Homo sapiens.  
 OS Synthetic.  
 XX Key Location/Qualifiers  
 XX Protein 1..155  
 FT /label= Light\_chain  
 FT 156..157  
 FT Peptide /label= Lys\_Arg\_dipeptide  
 FT 158..419  
 FT Protein /label= Heavy\_chain  
 FT Peptide 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 220  
 FT /note= "Wild-type Leu substituted by Asn"  
 FT Misc-difference 222  
 FT /note= "Wild-type Arg substituted by Thr"  
 PD /note= "Wild-type Arg substituted by Thr"  
 PD MO200232461-A2.  
 PD 25-APR-2002.  
 XX 15-OCT-2001; 2001WO-DK000679.  
 PF 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX (MAXY-) MAXYGEN ABS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 PI Andersen KV, Pedersen AH, Frestgaard PO;  
 DR WPI; 2002-489875/52.  
 XX Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 BS Claim 9; Page: 92pp; English.  
 XX The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (I) a variant (IV) of (III) comprising a  
 CC substitution in a position (p) where (p) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe166Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections. Moreover, a  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC

FT /note= "Wild-type Val substituted by Asn"

Best Local Similarity	99.56;	Pred. No. 2.1e-142;
Matches 417;	Conservative 0;	Mismatches 2;
Indels 0;	Gaps 0;	

QY 1 ANSFLEELRHSSLERECIEEICDFEEAKEIFQNVDDTLAFWSKHVDGDQCLVPLBHPCA 60



Db 1 ANSFLELRHSSLERECIEICDFEAKEIFQNVDDTLAFWSKHVDGQCLVPLEHPCA 60  
 QY 61 SLCCGHTCIDIGISFSCDRSGWGRFCQREVSFLNCSLDNGGCTHYCLEEVMRRSC 120  
 Db 61 SLCCGHTCIDIGISFSCDRSGWGRFCQREVSFLNCSLDNGGCTHYCLEEVMRRSC 120  
 QY 121 APGYKLGDDLLQCHPAVFPQGRPMKMEKRSKSLKXDTDEQDQVDPRLIDGKMTRRGD 180  
 Db 121 APGYKLGDDLLQCHPAVFPQGRPMKMEKRSKSLKXDTDEQDQVDPRLIDGKMTRRGD 180  
 QY 181 SPQVVLDSKKKLACGAVLIHPSWLTAAHCHDSKSLVRLGEYDLRMEKWEIJDLDI 240  
 Db 181 SPQVVLDSKKKLACGAVLIHPSWLTAAHCHDSKSLVRLGEYDLRMEKWEIJDLDI 240  
 QY 241 KEVFEVHNYSKSTTDNDIALHLAQPATLSQTYVPCLPDSGLARELNQAGETLVYTGW 300  
 Db 241 KEVFEVHNYSKSTTDNDIALHLAQPATLSQTYVPCLPDSGLARELNQAGETLVYTGW 300  
 QY 301 GHSSREKEAKRNRTFVLFNFIKIPVPHNECESEVMNMYSEMLCAGILGDRQACEDGS 360  
 Db 301 GHSSREKEAKRNRTFVLFNFIKIPVPHNECESEVMNMYSEMLCAGILGDRQACEDGS 360  
 QY 361 GGPMVASFHGTHWEIVGVSWGSCGLLNVTYTKYSRYLDMTHGHTRDYAPQKSWAP 419  
 Db 361 GGPMVASFHGTHWEIVGVSWGSCGLLNVTYTKYSRYLDMTHGHTRDYAPQKSWAP 419

RESULT 113  
 AAU99025  
 ID AAU99025 standard; protein: 419 AA.  
 AC AAU99025;  
 XX 23-AUG-2002 (first entry)  
 DE Human Protein C zymogen protein mutant L220N/R222S.  
 XX  
 XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 FH Key Location/Qualifiers  
 FT Protein 1..155  
 FT Peptide /label= Light\_chain  
 FT Peptide /label= Lys\_Arg\_dipeptide  
 FT Protein 158..419  
 FT Peptide /label= Heavy\_chain  
 FT Peptide 158..169  
 FT Misc-difference 220 /label= Activation\_peptide  
 FT FT /note= "Wild-type Leu substituted by Asn"  
 FT FT /note= "Wild-type Arg substituted by Ser"  
 FT FT /note= "Wild-type Arg substituted by Ser"  
 PN WO200232461-A2.  
 PN  
 XX 25-APR-2002.  
 PD 15-OCT-2001; 2001WO-DK000679.  
 XX  
 XX 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN AFS.

PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 XX  
 PI Andersen KV, Pedersen AH, Friesgaard PO;  
 DR WPI; 2002-469875/52.  
 XX  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 PS Claim 9; Page; 92pp; English.  
 XX  
 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (p) where (p) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln/Thr/  
 CC Tyr302Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burn, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99025 and the information in claim 9  
 XX  
 SQ Sequence 419 AA;  
 Query Match 99.4%; Score 2311; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 2,1e-142;  
 Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
 QY 1 ANSFLELRHSSLERECIEICDFEAKEIFQNVDDTLAFWSKHVDGQCLVPLEHPCA 60  
 Db 1 ANSFLELRHSSLERECIEICDFEAKEIFQNVDDTLAFWSKHVDGQCLVPLEHPCA 60  
 QY 61 SLCCGHTCIDIGISFSCDRSGWGRFCQREVSFLNCSLDNGGCTHYCLEEVMRRSC 120  
 Db 61 SLCCGHTCIDIGISFSCDRSGWGRFCQREVSFLNCSLDNGGCTHYCLEEVMRRSC 120  
 QY 121 APGYKLGDDLLQCHPAVFPQGRPMKMEKRSKSLKXDTDEQDQVDPRLIDGKMTRRGD 180  
 Db 121 APGYKLGDDLLQCHPAVFPQGRPMKMEKRSKSLKXDTDEQDQVDPRLIDGKMTRRGD 180  
 QY 181 SPQVVLDSKKKLACGAVLIHPSWLTAAHCHDSKSLVRLGEYDLRMEKWEIJDLDI 240  
 Db 181 SPQVVLDSKKKLACGAVLIHPSWLTAAHCHDSKSLVRLGEYDLRMEKWEIJDLDI 240  
 QY 241 KEVFEVHNYSKSTTDNDIALHLAQPATLSQTYVPCLPDSGLARELNQAGETLVYTGW 300

Db 241 KEVFNHNSKSTTDNDIALHLAQPATLSQITVPICLPDSGLARELNAGQETLVGM 300  
QY 301 GYHSREKEAKRNRTFVNLFIKIPVPHNCESEWMSNMVSENMLCAGIIGRDQACGDS 360  
Db 301 GYHSREKEAKRNRTFVNLFIKIPVPHNCESEWMSNMVSENMLCAGIIGRDQACGDS 360  
QY 361 GGPWVASFHGTWFLVGLVSWGEGCGLHNHYGYTTSRYLDMIGHIRDXEAPQKSNAP 419  
Db 361 GGPWVASFHGTWFLVGLVSWGEGCGLHNHYGYTTSRYLDMIGHIRDXEAPQKSNAP 419  
RESULT 114  
AAU99079 standard; protein; 419 AA.  
AAU99079;  
23-AUG-2002 (first entry)  
Human Protein C zymogen protein mutant L349N/D351S.  
Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
after venous thrombosis; disseminated intravascular coagulation; DIC;  
sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
Homo sapiens.  
Synthetic.  
Key Location/Qualifiers  
Protein 1..155  
Peptide 156..157  
Protein 158..419  
Peptide 158..169  
/label= Light\_chain  
/label= Lys\_Arg\_dipeptide  
/label= Heavy\_chain  
/label= Activation\_peptide  
Misc-difference 349  
/note= "Wild-type Ieu substituted by Aasn"  
Misc-difference 351  
/note= "Wild-type Asp substituted by Ser"  
W0200232461-A2.  
25-APR-2002.  
15-OCT-2001; 2001WO-DK000679.  
18-OCT-2000; 2000DK-00001560.  
18-OCT-2000; 2000US-0242268P.  
21-JUN-2001; 2001DK-00000970.  
21-JUN-2001; 2001US-0300154P.  
PA (MAXY-) MAXYGEN APS.  
PA (MAXY-) MAXYGEN HOLDINGS LTD.  
PI Andersen KV, Pedersen AH, Freshgaard PO;  
DR WPI; 2002-489875/52.  
PT Novel conjugate useful for treating or preventing septic shock, stroke  
PT and myocardial infarction, comprises non-polypeptide group covalently  
PT attached to protein C polypeptide comprising an attachment group.  
XX Claim 9; Page; 92pp; English.  
XX The invention relates to a conjugate (I) comprising at least one non-  
XX polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
XX a protein C polypeptide comprising an amino acid sequence which differs

CC introduced and/or at least one removed amino acid residue comprising an  
CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
CC site). Also included are (1) a variant (IV) of (III) comprising a  
CC substitution in a position (P) where (P) is an amino acid with at least  
CC 25% of its side group exposed to the surface, with the proviso that the  
CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
CC comprising (V) or (VI); (5) increasing (W2) the functional *in vivo* half-  
CC life or the serum half-life of a parent protein C polypeptide. The  
CC conjugates, variants and protein C proteins are useful as medicaments,  
CC and in the manufacture of medicaments for the treatment (and  
CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
CC transplantation, burns, pregnancy, major surgery/trauma or adult  
CC respiratory distress syndrome (ARDS). The variant protein C has an  
CC increased resistance to activation by e.g. human plasma and alpha-1  
CC antitrypsin. The conjugates have an increased *in vivo* half-life,  
CC increased serum half-life, increased resistance to inhibitors, reduced  
CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
CC The conjugate offers a number of advantages over the currently available  
CC APC products, including longer duration between injections,  
CC administration of less protein, and fewer side effects. Moreover, a  
CC reduced anticoagulant activity is beneficial to reduce the risk of  
CC bleeding while maintaining the anti-inflammatory activity of APC  
CC (activated protein C) conjugates. This must be especially important when  
CC the conjugate has an extended plasma life. The gene for protein C is  
CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
CC protein C variant of the invention. Note: The present sequence is not  
CC shown in the specification but was created by the indexer using the  
CC protein C sequence appearing as AAU99002 and the information in claim 9  
XX  
XX  
SQ Sequence 419 AA;  
Query Match 99.4%; Score 2311; DB 5; Length 419;  
Best Local Similarity 99.5%; Pred. No 2,1e-142;  
Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
QY 1 ANSFLELRHSSLERECIEICDFEAKKIFQVNDTTALFMSKHYVDQCLVPLEHPCA 60  
Db 1 ANSFLELRHSSLERECIEICDFEAKKIFQVNDTTALFMSKHYVDQCLVPLEHPCA 60  
QY 61 SLCCGHTCCTDGGSSCCDSGWRGRCQREVSFNSCNDGCTYCEEYGMWRSC 120  
Db 61 SLCCGHTCCTDGGSSCCDSGWRGRCQREVSFNSCNDGCTYCEEYGMWRSC 120  
QY 121 APGYKLGDDLLQCHPAVPCGRPWKMEKKRSHLRDDEQEDQVDPRLIDKMTRRGD 180  
Db 121 APGYKLGDDLLQCHPAVPCGRPWKMEKKRSHLRDDEQEDQVDPRLIDKMTRRGD 180  
QY 181 SPQVVLIDSKKCLAGAVLTHPSWTLTAACWDESKLVLGLGIDLRMEWEJLDLI 240  
Db 181 SPQVVLIDSKKCLAGAVLTHPSWTLTAACWDESKLVLGLGIDLRMEWEJLDLI 240  
QY 241 KEVFNHNSKSTTDNDIALHLAQPATLSQITVPICLPDSGLARELNAGQETLVGM 300  
Db 241 KEVFNHNSKSTTDNDIALHLAQPATLSQITVPICLPDSGLARELNAGQETLVGM 300  
QY 301 GYHSREKEAKRNRTFVNLFIKIPVPHNCESEWMSNMVSENMLCAGIIGRDQACGDS 360  
Db 301 GYHSREKEAKRNRTFVNLFIKIPVPHNCESEWMSNMVSENMLCAGIIGRDQACGDS 360  
QY 361 GGPWVASFHGTWFLVGLVSWGEGCGLHNHYGYTTSRYLDMIGHIRDXEAPQKSNAP 419  
Db 361 GGPWVASFHGTWFLVGLVSWGEGCGLHNHYGYTTSRYLDMIGHIRDXEAPQKSNAP 419  
RESULT 115  
AAU99077 standard; protein; 419 AA.  
AAU99077

XX AC AAV99077;  
 XX 23-AUG-2002 (first entry)  
 DT  
 XX  
 DE Human Protein C zymogen protein mutant I348N/G350S.  
 KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX OS  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 XX Key Location/Qualifiers  
 FT Protein 1..155  
 FT /label= Light\_chain  
 FT Peptide 156..157  
 FT /label= Lys\_Arg\_dipeptide  
 FT Protein 158..419  
 FT /label= Heavy\_chain  
 FT Peptide 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 348  
 FT /note= "Wild-type Ile substituted by Asn"  
 FT Misc-difference 350  
 FT /note= "Wild-type Gly substituted by Ser"  
 XX  
 XX WO200232461-A2.  
 XX 25-APR-2002.  
 PD  
 XX 15-OCT-2001; 2001MO-DK000679.  
 XX  
 XX 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 XX  
 PI Andersen KV, Pedersen AH, Freaekgaard PO;  
 XX WPI; 2002-489875/52.  
 DR  
 XX Novel conjugate useful for treating or preventing septic shock, stroke  
 PT after myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 XX Claim 9; Page; 92pp; English.

CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the anti-inflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAV99002 and the information in claim 9  
 XX  
 XX Sequence 419 AA.  
 Query Match 99.4%; Score 2311; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 2.1e-142;  
 Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
 QY 1 ANSFLERHSSLEPCIEECIECPPEAKETIIONDDTLAFAWSDGOCVLTLEHPCA 60  
 DB 1 ANSFLERHSSLEPCIEECIECPPEAKETIIONDDTLAFAWSDGOCVLTLEHPCA 60  
 QY 61 SLCCGHTCIDIGISFSCDCRSQMEGRFCOREVSEFLNCSLDNGGCTHYCLBEVGRRCSC 120  
 DB 61 SLCCGHTCIDIGISFSCDCRSQMEGRFCOREVSEFLNCSLDNGGCTHYCLBEVGRRCSC 120  
 QY 121 APGYKIGDDILQCHPAVPCGGRPMKMEKRSKSHIKDTEQEDQVDPRLIDGMATREGD 180  
 DB 121 APGYKIGDDILQCHPAVPCGGRPMKMEKRSKSHIKDTEQEDQVDPRLIDGMATREGD 180  
 QY 181 SPWQVVLVLSKKKLAAGAVLHPSWLTFAHOMESKKLVLRGVEDLRMEKKELDLDI 240  
 DB 181 SPWQVVLVLSKKKLAAGAVLHPSWLTFAHOMESKKLVLRGVEDLRMEKKELDLDI 240  
 QY 241 KEVFEHPNYSKSTNDIDIALHLAOPATLSQTIPICLPDSGLAERLNQAGSTLVGN 300  
 DB 241 KEVFEHPNYSKSTNDIDIALHLAOPATLSQTIPICLPDSGLAERLNQAGSTLVGN 300  
 QY 301 GYHSSRKEKAKRRTFVNLPKTPVYPNHEGSEFWSNMVSENNLCGLIGRORONACRGS 360  
 DB 301 GYHSSRKEKAKRRTFVNLPKTPVYPNHEGSEFWSNMVSENNLCGLIGRORONACRGS 360  
 QY 361 GGPWVAASFHGTWFLVGLVSWGEGGLLHNYGVYTVSRVLDWIHGHIRDKAPQKSWAP 419  
 DB 361 GGPWVAASFHGTWFLVGLVSWGEGGLLHNYGVYTVSRVLDWIHGHIRDKAPQKSWAP 419  
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 XX AAV99092  
 XX ID AAV99092 standard; protein; 419 AA.  
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 XX AAV99092;  
 DT 23-AUG-2002 (first entry)  
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 DE Human Protein C zymogen protein mutant L387N/N389T.  
 KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 XX Homo sapiens.

OS Synthetic.  
 XX Key Location/Qualifiers  
 FH Protein 1..155  
 FT /label= Light\_chain  
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 FT /label= Lys\_Arg\_dipeptide  
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 FT /label= Activation\_peptide  
 FT Misc-difference 387  
 FT /note= "Wild-type Leu substituted by Asn"  
 FT Misc-difference 389  
 FT /note= "Wild-type Asn substituted by Thr"  
 XX W0200232461-A2.  
 XX 25-APR-2002.  
 XX 15-OCT-2001; 2001MO-DK000679.  
 XX 18-OCT-2000; 2000DK-00001560.  
 XX 18-OCT-2000; 2000US-0242268P.  
 XX 21-JUN-2001; 2001DK-00000970.  
 XX 21-JUN-2001; 2001US-0300154P.  
 PA (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 XX Andersen KV, Pedersen AH, Freskgaard PO;  
 XX WPI; 2002-4839875/52.  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 FT attached to protein C polypeptide comprising an attachment group.  
 XX Claim 9; Page; 92pp; English.

The invention relates to a conjugate (I) comprising at least one non-polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to a protein C polypeptide comprising an amino acid sequence which differs from that of a parent protein C polypeptide (III) in at least one introduced and/or at least one removed amino acid residue comprising an attachment group for the non-polypeptide group (e.g. an N-glycosylation site). Also included are (1) a variant (IV) of (III) comprising a substitution in a position (P) where (P) is an amino acid with at least 25% of its side group exposed to the surface, with the proviso that the substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Glu/Gly/Gln, Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Glu/Gly/Gln or Phe316Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII) comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-life or the serum half-life of a parent protein C polypeptide. The conjugates, variants and protein C proteins are useful as medicaments, and in the manufacture of medicaments for the treatment (and diagnosis/prevention) of stroke, myocardial infarction, after venous thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow transplantation, burns, pregnancy, major surgery/trauma or adult respiratory distress syndrome (ARDS). The variant protein C has an increased resistance to activation by e.g. human plasma and alpha-1 antitrypsin. The conjugates have an increased in vivo half-life, increased serum half-life, increased resistance to inhibitors, reduced renal clearance, reduced immunogenicity and/or increased bioavailability. The conjugate offers a number of advantages over the currently available APC products, including longer duration between injections, administration of less protein, and fewer side effects. Moreover, a reduced anticoagulant activity is beneficial to reduce the risk of bleeding while maintaining the antiinflammatory activity of APC (activated protein C) conjugates. This must be especially important when the conjugate has an extended plasma life. The gene for protein C is

CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AA099002 and the information in claim 9  
 XX  
 XX SQ Sequence 419 AA;  
 Query Match 99.4%; Score 2311; DB 5; Length 419;  
 Best local Similarity 99.5%; Pred. No. 2.1e-142;  
 Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
 QY 1 ANSPFEEELRRSSLEKRECEICDEFEAKEIFQVVDOTLAFMSKKEVDGCLVPLEHCA 60  
 DB 1 ANSPFEEELRRSSLEKRECEICDEFEAKEIFQVVDOTLAFMSKKEVDGCLVPLEHCA 60  
 QY 61 SLCCGHGTCTIDIGSFSCDCSSGWEGRFCQREVSFLNCSLNDGCTHYCLEEYGRRCSC 120  
 DB 61 SLCCGHGTCTIDIGSFSCDCSSGWEGRFCQREVSFLNCSLNDGCTHYCLEEYGRRCSC 120  
 QY 121 ARGYLGDLDLQCHPAVKEPCGRPMKMEKKSRLKRTTDEQVDPRLDGKTRRGD 180  
 DB 121 ARGYLGDLDLQCHPAVKEPCGRPMKMEKKSRLKRTTDEQVDPRLDGKTRRGD 180  
 QY 181 SPWQVVLDSKKKLACGAVLHPSMVLTAAHCWDESKLLVRLGEYDLRWKEWELDDI 240  
 DB 181 SPWQVVLDSKKKLACGAVLHPSMVLTAAHCWDESKLLVRLGEYDLRWKEWELDDI 240  
 QY 241 KEVFPHPYKSTTDDNALHLAQPTLSQITVPLCPDSDGLAEKRLNDAQCELTLYGW 300  
 DB 241 KEVFPHPYKSTTDDNALHLAQPTLSQITVPLCPDSDGLAEKRLNDAQCELTLYGW 300  
 QY 301 GYHSREKEAKRRRTVNLFIKIPVPHNECSFWSNVSNMTCAGIIGDQDACEGDS 360  
 DB 301 GYHSREKEAKRRRTVNLFIKIPVPHNECSFWSNVSNMTCAGIIGDQDACEGDS 360  
 QY 361 GGPVWASFHGTWELVGLVSWEGGCLLHNYGYTVVSYRLDWHGIRDEKAPQSMAP 419  
 DB 361 GGPVWASFHGTWELVGLVSWEGGCLLHNYGYTVVSYRLDWHGIRDEKAPQSMAP 419

RESULT 117  
 AAR62653  
 ID AAR62653 standard; protein; 461 AA.  
 AC AAR62653;  
 XX 25-MAR-2003 (revised)  
 DT 27-JUN-1995 (first entry)  
 XX  
 DE Human protein C.  
 KW Human protein C; intravascular coagulation; deep vein thrombosis;  
 KW pulmonary embolism; protein C deficiency.  
 OS Homo sapiens.  
 XX  
 FH Key Location/Qualifiers  
 FT Peptide 1..42  
 FT /note= "pre-pro peptide"  
 FT Peptide 43..211  
 FT /note= "activation peptide"  
 FT Region 97  
 FT /label= glycosylation\_site  
 FT Misc-difference 181  
 FT /note= "corresponding codon ACC"  
 FT Protein 212..461  
 FT /note= "activated protein C heavy chain"  
 FT Region 229  
 FT /label= glycosylation\_site  
 FT Region 248  
 FT /label= glycosylation\_site  
 FT Region 313  
 FT /label= glycosylation\_site

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XX  US358932-A.
XX  25-OCT-1994.
XX  23-SEP-1993; 93US-00126440.
XX  29-DEC-1989; 89US-00458856.
XX  27-APR-1990; 90US-00515378.
XX  27-DEC-1990; 90US-00634988.
XX  (ZYMO ) ZYMOGENETICS INC.
XX  Holly RD, Foster DC.
XX  MPI; 1994-341028/42.
XX  N-PSDB; AAQ72994.
XX  Modified human protein C molecules - esp. useful for treating coagulation
XX  -related disorders such as Protein C deficiency or thrombosis, or for
XX  promoting fibrinolysis.
XX  Example 1; Fig 1; 25pp; English.
XX  AAQ72994 encodes AAR62653 human protein C, from which the modified
XX  protein C molecule described in AAR62654 is derived. The modified
XX  molecule is useful in the treatment of conditions involving
XX  intravascular coagulation, e.g. deep vein thrombosis and pulmonary
XX  embolism. They may also be used in the treatment of inherited protein C
XX  deficiency. The modified protein C has the advantage of increased
XX  stability in plasma and thus a greater half-life compared to preps. of
XX  human protein C purified from plasma. (Updated on 25-MAR-2003 to correct
XX  PF field.)
XX  Sequence 461 AA;
SQ
Query Match 99.4%; Score 2311; DB 2; Length 461;
Best Local Similarity 99.5%; Pred. No. 2.3e-142;
Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
QY 1 ANSFLELRHSLRECEIEETCDPEAKEIFQNVDTTLAFMSKHYDGDCLVPLEHPCA 60
DB 43 ANSFLELRHSLRECEIEETCDPEAKEIFQNVDTTLAFMSKHYDGDCLVPLEHPCA 102
QY 61 SLCCGHTGICDGISSPSCDCRSQSGMGRFCQREVSFLNCSLDNGGCTHYCLEEYGMRRSC 120
DB 103 SLCCGHTGICDGISSPSCDCRSQSGMGRFCQREVSFLNCSLDNGGCTHYCLEEYGMRRSC 162
QY 121 APGYKLGDLLQCHPAVKFPCGTPMKMEKRSLSKRDTEDEQDVPRLLIDGKTRRD 180
DB 163 APGYKLGDLLQCHPAVKFPCGTPMKMEKRSLSKRDTEDEQDVPRLLIDGKTRRD 222
QY 181 SPQVVLDSKKKLACAVLHPSVLTAAHOMESKILVLSGYLDRMEWEMLDDI 240
DB 223 SPQVVLDSKKKLACAVLHPSVLTAAHOMESKILVLSGYLDRMEWEMLDDI 282
QY 241 KEVFEHNSKSTTDNDIALHAPATLSOTIPICLDPDSLAEREINAGQETLVGM 300
DB 283 KEVFEHNSKSTTDNDIALHAPATLSOTIPICLDPDSLAEREINAGQETLVGM 342
QY 301 GHSSREKAKAKRNTFVLANFIKYPVPHNESEVMNSVSEMLCAGLIGRDADCEGS 360
DB 343 GHSSREKAKAKRNTFVLANFIKYPVPHNESEVMNSVSEMLCAGLIGRDADCEGS 402
QY 361 GGEVVASFHGTWFLVGVSWGECGLNNVYTKKRYLIDVHGHIRDEAKPQKMAW 419
DB 403 GGEVVASFHGTWFLVGVSWGECGLNNVYTKKRYLIDVHGHIRDEAKPQKMAW 461

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RESULT 118  
AAU99088  
ID AAU99088 standard; protein; 419 AA.  
XX

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AC AAU99088;
XX 23-AUG-2002 (first entry)
XX Human Protein C zymogen protein mutant G383N/G385T.
XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;
XX serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;
XX after venous thrombosis; disseminated intravascular coagulation; DIC;
XX sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;
XX bone marrow transplantation; major surgery; trauma; AIDS; coagulant;
XX adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.
XX
XX Homo sapiens.
XX Synthetic.
XX Key Location/Qualifiers
XX Protein 1..155
XX Peptide /label= Light_chain
XX Peptide 156..157
XX Protein /label= Lys_Arg_dipeptide
XX Peptide 158..419
XX Peptide /label= Heavy_chain
XX Peptide 158..169
XX Misc-difference 383 /label= Activation_peptide
XX Misc-difference 385 /note= "Wild-type Gly substituted by Asn"
XX /note= "Wild-type Gly substituted by Thr"
XX MO200232461-A2.
XX 25-APR-2002.
XX 15-OCT-2001; 2001WO-DK000679.
XX 18-OCT-2000; 2000DK-00001560.
XX 18-OCT-2000; 2000US-0242268P.
XX 21-JUN-2001; 2001DK-00000970.
XX 21-JUN-2001; 2001US-0300154P.
XX (MAXY-) MAXYGEN APS.
XX (MAXY-) MAXYGEN HOLDINGS LTD.
XX Andersen KV, Pedersen AH, Friesgaard PO;
XX WPI; 2002-489875/52.
XX Novel conjugate useful for treating or preventing septic shock, stroke
XX and myocardial infarction, comprises non-polypeptide group covalently
XX attached to protein C polypeptide comprising an attachment group.
XX
XX Claim 9; Page; 92pp; English.
XX The invention relates to a conjugate (I) comprising at least one non-
XX polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to
XX a protein C polypeptide comprising an amino acid sequence which differs
XX from that of a parent protein C polypeptide (III) in at least one
XX introduced and/or at least one removed amino acid residue comprising an
XX attachment group for the non-polypeptide group (e.g. an N-glycosylation
XX site). Also included are (1) a variant (IV) of (III) comprising a
XX substitution in a position (p) where (p) is an amino acid with at least
XX 25% of its side group exposed to the surface, with the proviso that the
XX substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,
XX Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe156Ser/Ala/Thr/
XX His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding
XX (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)
XX comprising (V) or (VI); (5) increasing (W2) the functional in vivo half-
XX life of the serum half-life of a parent protein C polypeptide. The
XX conjugates, variants and protein C proteins are useful as medicaments,
XX and in the manufacture of medicaments for the treatment (and
XX diagnosis/prevention) of stroke, myocardial infarction, after venous
XX thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic

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CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 SQ Sequence 419 AA;

Query Match 99.4%; Score 2310; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 2.5e-142;

Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 ANSFLEELRHSLRECEIEICDFEAEKIFQNVDDTLAFMSKRVADGQCLVPLEHPCA 60  
 DB 1 ANSFLEELRHSLRECEIEICDFEAEKIFQNVDDTLAFMSKRVADGQCLVPLEHPCA 60  
 QY 61 SLCCGHTCIDIGISFSCDRSGMEGRFCQREVSFNLGNDGCTHYCLLEVMGRCSG 120  
 DB 61 SLCCGHTCIDIGISFSCDRSGMEGRFCQREVSFNLGNDGCTHYCLLEVMGRCSG 120  
 QY 121 APGYKLGDLLQCHPAVKFPCGRPMKMEKRSKSLKRDTEDEQDVDPRLIDGKMTRRGD 180  
 DB 121 APGYKLGDLLQCHPAVKFPCGRPMKMEKRSKSLKRDTEDEQDVDPRLIDGKMTRRGD 180  
 QY 181 SPWQVLLDSKKLACGAVTIPHSVLTIAHCWDESKLIVLGEYDIRMEKWELELDI 240  
 DB 181 SPWQVLLDSKKLACGAVTIPHSVLTIAHCWDESKLIVLGEYDIRMEKWELELDI 240  
 QY 241 KEFVFPNYSKSTTDNDIALHLAOPATLSOTIPICLPDSGLARELNAGQETLVYSG 300  
 DB 241 KEFVFPNYSKSTTDNDIALHLAOPATLSOTIPICLPDSGLARELNAGQETLVYSG 300  
 QY 301 GHSSREKAKRNRTFVLPNFIKIPVPNNECEVMSNMVSENNLCAGILDRDACEGDS 360  
 DB 301 GHSSREKAKRNRTFVLPNFIKIPVPNNECEVMSNMVSENNLCAGILDRDACEGDS 360  
 QY 361 GSPMVASHEGTMELVGVSGEGCGLHNGVYTKYSRYLDMIHGHIDNEAOKSNAP 419  
 DB 361 GSPMVASHEGTMELVGVSGEGCGLHNGVYTKYSRYLDMIHGHIDNEAOKSNAP 419  
 DB 361 GSPMVASHEGTMELVGVSGEGCGLHNGVYTKYSRYLDMIHGHIDNEAOKSNAP 419

RESULT 120  
 ID AAU99080 standard; protein; 419 AA.  
 XX  
 AC AAU99080;  
 XX  
 DT 23-AUG-2002 (first entry)  
 XX  
 DE Human Protein C zymogen protein mutant L349N/D351T.  
 XX  
 KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; AIDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 FH Key Location/Qualifiers  
 FT Protein 1..155  
 FT Peptide /label= Light\_chain  
 FT Peptide /label= Lys\_Arg\_dipeptide  
 FT Protein 158..419  
 FT Peptide /label= Heavy\_chain  
 FT Peptide 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 349  
 FT /note= "wild-type Leu substituted by Asn"  
 FT Misc-difference 351  
 FT /note= "wild-type Asp substituted by Thr"

PN WO200232461-A2.  
 XX  
 PD 25-APR-2002.  
 XX  
 PF 15-OCT-2001; 2001WO-DK000679.  
 XX  
 PR 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-UDN-2001; 2001DK-00000970.  
 PR 21-UDN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 XX  
 PI Andersen KV, Pedersen AH, Friesgaard PO;  
 XX  
 DR WPI; 2002-489875/52.  
 XX  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 PS Claim 9; Page; 92pp; English.  
 XX  
 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 2% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asp/Asn/Glu/Gly/Gln.  
 CC Tyr32Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe31Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 SQ Sequence 419 AA;

Query Match 99.4%; Score 2310; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 2.5e-142;  
 Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 ANSFLEELRHSLRECEIEICDFEAEKIFQNVDDTLAFMSKRVADGQCLVPLEHPCA 60  
 DB 1 ANSFLEELRHSLRECEIEICDFEAEKIFQNVDDTLAFMSKRVADGQCLVPLEHPCA 60  
 QY 61 SLCCGHTCIDIGISFSCDRSGMEGRFCQREVSFNLGNDGCTHYCLLEVMGRCSG 120

```

Db      61  SLCCGHTCTIDIGSFSCDCRSGMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 120
Qy      121  APGYKLGDDLLQCHPAVAFPCGRPMKMEKRSKSHLKRTDEQEDQVDFPRLIDGKMTRRGD 180
Db      121  APGYKLGDDLLQCHPAVAFPCGRPMKMEKRSKSHLKRTDEQEDQVDFPRLIDGKMTRRGD 180
Qy      181  SPMQVLLDSKCKKLAAGAVLIHPSWVLTAAHOMDESKKLLVRGGEYDLRRMEKWEI.DLI 240
Db      181  SPMQVLLDSKCKKLAAGAVLIHPSWVLTAAHOMDESKKLLVRGGEYDLRRMEKWEI.DLI 240
Qy      241  KEVFPHPNYSKSTTNDIALHLAQPATLSQITVPICLPDSGLAEHELNOAQGETLVYGM 300
Db      241  KEVFPHPNYSKSTTNDIALHLAQPATLSQITVPICLPDSGLAEHELNOAQGETLVYGM 300
Qy      301  GYHSSREKAKNRRTFVNFIKIPVPHNECEVSNMVSNNMLCAGILGDRQACGDS 360
Db      301  GYHSSREKAKNRRTFVNFIKIPVPHNECEVSNMVSNNMLCAGILGDRQACGDS 360
Qy      361  GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGYTVKVSRYLDMIGHIRDKXAPQKSNAP 419
Db      361  GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGYTVKVSRYLDMIGHIRDKXAPQKSNAP 419

RESULT 121
AA093540
ID      AA093540 standard; protein; 461 AA.
XX
AC      AA093540;
XX
DT      25-MAR-2003 (revised)
DT      09-JAN-2003 (revised)
DT      31-OCT-1991 (first entry)
XX
DE      Human Protein C zymogen FLIN.
XX
KW      HPC mutant; pro drug; intravascular coagulation; zymogen.
XX
OS      Homo sapiens.
XX
FH      Key
FT      Region
XX      Location/Qualifiers
XX      198..199
XX      /label= Lys-Arg dipeptide
XX
XX      EP443875-A.
XX
XX      PD
XX      28-AUG-1991.
XX
XX      PF
XX      22-FEB-1991; 91EP-00301450.
XX
XX      PR
XX      23-FEB-1990; 90US-00484133.
XX
XX      PA
XX      (ELIL ) LILLY & CO ELI.
XX
XX      PI
XX      Gerlitz BE, Grinnell BW;
XX
XX      DR
XX      WPI; 1991-25444/35.
XX
XX      PT
XX      Recombinant mutants of human protein C - having aminoacid changes for
XX      increased sensitivity to activation by thrombin and thrombin-
XX      thrombomodulin complex.
XX
XX      PS
XX      Claim 28; Page 37-38; 67pp; English.
XX
XX      CC
XX      Protein C zymogen FLIN comprises a signal peptide and propeptide of a
XX      gamma-carboxylated secreted protein, the light chain of HPC, a basic
XX      dipeptide (i.e. Lys-Arg, but can also be Arg-Lys, Lys-Lys or Arg-Arg) and
XX      amino acid residues 200-461 of HPC but with Asp(209) replaced by Phe and
XX      Asp(214) replaced by Asn. The zymogen can be activated in vivo by
XX      thrombin alone (even in the presence of calcium) and is more susceptible
XX      to activation by thrombin/ thrombomodulin than native HPC zymogen.
XX      CC
XX      Zymogen FLIN can be administered as a pro drug useful in prevention and
XX      treatment of diseases involving intravascular coagulation. It can also be

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CC      given to thrombocytopenic patients with invasive cancers with effective
CC      and intensive chemotherapy. See also AA093537-9 and AA093523. (Updated on
CC      09-JUN-2003 to add missing OS field.) (Updated on 25-MAR-2003 to correct
CC      PA field.)
XX
SQ      Sequence 461 AA;
XX
Query Match      99.4%; Score 2310; DB 2; Length 461;
Best Local Similarity 99.5%; Pred. No. 2.7e-14;
Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy      1  ANSFLBELRHSLSRECEIEICDFEEAKEIFQNVDDTLAFMSKHVGDQCLVLPHEPCA 60
Db      43  ANSFLBELRHSLSRECEIEICDFEEAKEIFQNVDDTLAFMSKHVGDQCLVLPHEPCA 102
Qy      61  SLCCGHTCTIDIGSFSCDCRSGMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 120
Db      103  SLCCGHTCTIDIGSFSCDCRSGMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 162
Qy      121  APGYKLGDDLLQCHPAVAFPCGRPMKMEKRSKSHLKRTDEQEDQVDFPRLIDGKMTRRGD 180
Db      163  APGYKLGDDLLQCHPAVAFPCGRPMKMEKRSKSHLKRTDEQEDQVDFPRLIDGKMTRRGD 222
Qy      181  SPMQVLLDSKCKKLAAGAVLIHPSWVLTAAHOMDESKKLLVRGGEYDLRRMEKWEI.DLI 240
Db      223  SPMQVLLDSKCKKLAAGAVLIHPSWVLTAAHOMDESKKLLVRGGEYDLRRMEKWEI.DLI 282
Qy      241  KEVFPHPNYSKSTTNDIALHLAQPATLSQITVPICLPDSGLAEHELNOAQGETLVYGM 300
Db      283  KEVFPHPNYSKSTTNDIALHLAQPATLSQITVPICLPDSGLAEHELNOAQGETLVYGM 342
Qy      301  GYHSSREKAKNRRTFVNFIKIPVPHNECEVSNMVSNNMLCAGILGDRQACGDS 360
Db      343  GYHSSREKAKNRRTFVNFIKIPVPHNECEVSNMVSNNMLCAGILGDRQACGDS 402
Qy      361  GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGYTVKVSRYLDMIGHIRDKXAPQKSNAP 419
Db      403  GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGYTVKVSRYLDMIGHIRDKXAPQKSNAP 461

RESULT 122
AA099029
ID      AA099029 standard; protein; 419 AA.
XX
AC      AA099029;
XX
XX      DT
XX      23-AUG-2002 (first entry)
XX
XX      DE
XX      Human Protein C zymogen protein mutant V245N/P247S.
XX
XX      KW
XX      Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;
XX      serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;
XX      after venous thrombosis; disseminated intravascular coagulation; DIC;
XX      sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;
XX      bone marrow transplantation; major surgery; trauma; ARDS; coagulant;
XX      adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.
XX
XX      OS
XX      Homo sapiens.
XX
XX      FT
XX      Synthetic.
XX
XX      FH
XX      Key
XX      Location/Qualifiers
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XX      /label= Light_chain
XX      FT
XX      Peptide
XX      156..157
XX      /label= Lys_Arg_dipeptide
XX      FT
XX      Protein
XX      158..419
XX      /label= Heavy_chain
XX      FT
XX      Peptide
XX      158..169
XX      /label= Activation_peptide
XX      FT
XX      Misc-difference 245
XX      /note= "Wild-type Val substituted by Asn"
XX      FT
XX      Misc-difference 247
XX      /note= "Wild-type Pro substituted by Ser"

```



XX WO200232461-A2.  
 PN  
 XX 25-APR-2002.  
 PD  
 XX  
 XX 15-OCT-2001, 2001WO-DK000679.  
 PF  
 XX  
 PR 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 XX  
 PI Andersen KV, Pedersen AH, Friesgaard PO;  
 DR WPI; 2002-489875/52.  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 PS Claim 9; Page; 92pp; English.  
 XX  
 XX The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln/  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe156Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistant to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 CC  
 XX Sequence 419 AA;  
 SQ  
 Query March 99.4%; Score 2309; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 2.9e-142;  
 Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
 QY 1 ANSFLEELHSSLEECIEEICDPEFAKEIFQNVDDTLAFMSKHYDGDQCIYVPLEHPCA 60  
 DB 1 ANSFLEELHSSLEECIEEICDPEFAKEIFQNVDDTLAFMSKHYDGDQCIYVPLEHPCA 60

QY 61 SLCCGHTCIGDIGSPSCDCRSQWEGRECOREVFINCSLDNGGCTHYCLEEYGMRRGSC 120  
 DB 61 SLCCGHTCIGDIGSPSCDCRSQWEGRECOREVFINCSLDNGGCTHYCLEEYGMRRGSC 120  
 QY 121 APGYKLGDDLLQCHPAVKFPCGRPWKEKEKRSHTLKDDEDEQVDPRLLIDGKMTRRSD 180  
 DB 121 APGYKLGDDLLQCHPAVKFPCGRPWKEKEKRSHTLKDDEDEQVDPRLLIDGKMTRRSD 180  
 QY 181 SPQGVVLLDSKKKACCAVLIHPSWYLPAAQCDDESKLLVRLGEYDI RRRKKKELDLDI 240  
 DB 181 SPQGVVLLDSKKKACCAVLIHPSWYLPAAQCDDESKLLVRLGEYDI RRRKKKELDLDI 240  
 QY 241 KEVFEVFNYSKSTTDNDIALHLAOPATLSOTIYPLCLPDSGLARELNQAGETTVTCG 300  
 DB 241 KEVFEVFNYSKSTTDNDIALHLAOPATLSOTIYPLCLPDSGLARELNQAGETTVTCG 300  
 QY 301 GYHSREKEAKNRRTFYANFIKIPVPHNECSFVMSNMVSENNLCAGILGRDACEGDS 360  
 DB 301 GYHSREKEAKNRRTFYANFIKIPVPHNECSFVMSNMVSENNLCAGILGRDACEGDS 360  
 QY 361 GGPVVASFHGTWFLVGLVSWGEGCGLNRYGVYTKYSRYLDMHGHIDKRAPOKSMAP 419  
 DB 361 GGPVVASFHGTWFLVGLVSWGEGCGLNRYGVYTKYSRYLDMHGHIDKRAPOKSMAP 419  
 RESULT 123  
 AAU99030  
 ID AAU99030 standard; protein; 419 AA.  
 XX  
 AC AAU99030;  
 XX  
 DT 23-AUG-2002 (first entry)  
 XX  
 DE Human Protein C zymogen protein mutant V245N/P247T.  
 XX  
 KM Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KM serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KM after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KM sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KM bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KM adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 FH Key Location/Qualifiers  
 FT Protein 1..155  
 FT Peptide /label= Light\_chain  
 FT Peptide /label= Lys\_Arg\_dipeptide  
 FT Protein 158..419  
 FT Peptide /label= Heavy\_chain  
 FT Peptide 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 245  
 FT /note= "Wild-type Val substituted by Asn"  
 FT Misc-difference 247  
 FT /note= "Wild-type Pro substituted by Thr"  
 XX  
 WO200232461-A2.  
 PD 25-APR-2002.  
 PF  
 XX 15-OCT-2001; 2001WO-DK000679.  
 PR 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 XX

PI Andersen KV, Pedersen AH, Freskgaard PO;  
 XX WPI; 2002-489875/52.  
 XX  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 PS Claim 9; Page; 92pp; English.  
 XX  
 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (W2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli, e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life.  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 CC  
 XX  
 SQ Sequence 419 AA;  
 Query Match 99.4%; Score 2309; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 2,9e-142;  
 Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 301 GYHSREKAKRNPVLPVPHNECSRWNSVNSNM/CAGIIGDRQACGSDS 360  
 DB 301 GYHSREKAKRNPVLPVPHNECSRWNSVNSNM/CAGIIGDRQACGSDS 360  
 QY 361 GGPVWASFHGTWELVGLVSWGEGGLAHNYGYTVRSRYLDWIGHIRDKAPQKSWAP 419  
 DB 361 GGPVWASFHGTWELVGLVSWGEGGLAHNYGYTVRSRYLDWIGHIRDKAPQKSWAP 419  
 RESULT 124  
 AAU99078  
 ID AAU99078 standard; protein; 419 AA.  
 AC AAU99078;  
 DT 23-AUG-2002 (first entry)  
 DE Human Protein C zymogen protein mutant I348N/G350T.  
 XX  
 KM Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KM serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KM after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KM sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KM bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KM adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutain.  
 OS Homo sapiens.  
 OS Synthetic.  
 FH Key Location/Qualifiers  
 FT Protein 1..155  
 FT /label= Light\_chain  
 FT Peptide 156..157  
 FT /label= Lys\_Arg\_dipeptide  
 FT Protein 158..419  
 FT /label= Heavy\_chain  
 FT Peptide 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 348  
 FT /note= "Wild-type Ile substituted by Asn"  
 FT FT  
 FT Misc-difference 350  
 FT /note= "Wild-type Gly substituted by Thr"  
 PN W0200232461-A2.  
 PD 25-APR-2002.  
 XX  
 PF 15-OCT-2001; 2001WO-DK000679.  
 XX  
 PR 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-00000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 PI  
 PI Andersen KV, Pedersen AH, Freskgaard PO;  
 PF WPI; 2002-489875/52.  
 XX  
 DR WPI; 2002-489875/52.  
 XX  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 PS Claim 9; Page; 92pp; English.  
 XX  
 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an

CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
CC site). Also included are (1) a variant (IV) of (III) comprising a  
CC substitution in a position (P) where (P) is an amino acid with at least  
CC 2% of its side group exposed to the surface, with the proviso that the  
CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asp/Glu/Gly/Gln/  
CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asp/Glu/Gly/Gln or Phe165Ser/Ala/Thr/  
CC His/Lys/Arg/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
CC comprising (V) or (VI); (5) increasing (W2) the functional in vivo half-  
CC life or the serum half-life of a parent protein C polypeptide. The  
CC conjugates, variants and protein C proteins are useful as medicaments,  
CC and in the manufacture of medicaments for the treatment (and  
CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
CC transplantation, burns, pregnancy, major surgery/trauma or adult  
CC respiratory distress syndrome (ARDS). The variant protein C has an  
CC increased resistance to activation by e.g. human plasma and alpha-1  
CC antitrypsin. The conjugates have an increased in vivo half-life,  
CC increased serum half-life, increased resistance to inhibitors, reduced  
CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
CC The conjugate offers a number of advantages over the currently available  
CC APC products, including longer duration between injections. Moreover, a  
CC administration of less protein, and fewer side effects. Moreover, a  
CC reduced anticoagulant activity is beneficial to reduce the risk of  
CC bleeding while maintaining the antiinflammatory activity of APC  
CC (activated protein C) conjugates. This must be especially important when  
CC the conjugate has an extended plasma life. The gene for protein C is  
CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
CC protein C variant of the invention. Note: The present sequence is not  
CC shown in the specification but was created by the indexer using the  
CC protein C sequence appearing as AAU99002 and the information in claim 9  
XX  
XX  
SQ Sequence 419 AA;

Query Match 99.4%; Score 2309; DB 5; Length 419;  
Best Local Similarity 99.5%; Pred. No. 2,9e-142;  
Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 ANSFLELRHSLEREICEDFEAKEIFQVNDTTLAFWSKVVDQCLVPLEHCA 60  
DB 1 ANSFLELRHSLEREICEDFEAKEIFQVNDTTLAFWSKVVDQCLVPLEHCA 60  
QY 61 SLCCGHTCIDIGISFSCDRSGMGRFCQREVSFLNCSLNDGCTCYCLEEVMRRCSC 120  
DB 61 SLCCGHTCIDIGISFSCDRSGMGRFCQREVSFLNCSLNDGCTCYCLEEVMRRCSC 120  
QY 121 APGYKLGDDLIQCHPAVKPCGRPKMKMEKRSKLRDTEDEQDVPRLIDKXTRRGD 180  
DB 121 APGYKLGDDLIQCHPAVKPCGRPKMKMEKRSKLRDTEDEQDVPRLIDKXTRRGD 180  
QY 181 SPWQVLLDSKKKLAGAVLHPSWVLFRAHCHDSKSLVLRGELYLRMEKWELEDDI 240  
DB 181 SPWQVLLDSKKKLAGAVLHPSWVLFRAHCHDSKSLVLRGELYLRMEKWELEDDI 240  
QY 241 KEVFVPMYSKSTTDNDIALHLAQPATLSQTVPLICLPDSSLAREHNAQGETLVYGM 300  
DB 241 KEVFVPMYSKSTTDNDIALHLAQPATLSQTVPLICLPDSSLAREHNAQGETLVYGM 300  
QY 301 GHSSREKAKRNTFYLANITKLPVFNESSEVMNSENMLCAGLIGDRDACEGDS 360  
DB 301 GHSSREKAKRNTFYLANITKLPVFNESSEVMNSENMLCAGLIGDRDACEGDS 360  
QY 361 GGMVVASFHGTWFLVGVWSGEGCLANNYGVYTKYSRYLDMHGHIDKEAKQKSMAP 419  
DB 361 GGMVVASFHGTWFLVGVWSGEGCLANNYGVYTKYSRYLDMHGHIDKEAKQKSMAP 419

RESULT 125  
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ID AAU99067 standard; protein; 419 AA.  
XX  
AC AAU99067;

XX  
XX 23-AUG-2002 (first entry)  
DE Human Protein C zymogen protein mutant F316N/I218S.  
XX  
XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutain.  
XX  
OS Homo sapiens.  
OS Synthetic.  
FH Key Location/Qualifiers  
FH Protein 1..155  
FT /label= light chain  
FT Peptide 156..157  
FT /label= Lys\_Arg\_dipeptide  
FT Protein 158..419  
FT /label= Heavy\_chain  
FT Peptide 158..169  
FT /label= Activation\_peptide  
FT Misc-difference 316  
FT /note= "Wild-type Phe substituted by Asn"  
FT Misc-difference 318  
FT /note= "Wild-type Leu substituted by Ser"  
XX  
XX W0200232461.A2.  
XX  
XX 25-APR-2002.  
XX  
XX 15-OCT-2001; 2001WO-DK00679.  
XX  
XX 18-OCT-2000; 2000DK-00001560.  
XX 18-OCT-2000; 2000US-0242268P.  
XX 21-JUN-2001; 2001DK-00000970.  
XX 21-JUN-2001; 2001US-0300154P.  
XX  
XX (MAXY-) MAXYGEN APS.  
XX (MAXY-) MAXYGEN HOLDINGS LTD.  
XX  
XX Andersen KV, Pedersen AH, Friesgaard PO;  
WPI; 2002-489875/52.  
XX  
XX Novel conjugate useful for treating or preventing septic shock, stroke  
PT and myocardial infarction, comprises non-polypeptide group covalently  
PT attached to protein C polypeptide comprising an attachment group.  
XX  
XX Claim 9; Page; 92pp; English.  
XX  
XX The invention relates to a conjugate (I) comprising at least one non-  
CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
CC a protein C polypeptide comprising an amino acid sequence which differs  
CC from that of a parent protein C polypeptide (III) in at least one  
CC introduced and/or at least one removed amino acid residue comprising an  
CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
CC site). Also included are (1) a variant (IV) of (III) comprising a  
CC substitution in a position (P) where (P) is an amino acid with at least  
CC 2% of its side group exposed to the surface, with the proviso that the  
CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asp/Glu/Gly/Gln/Thr/  
CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asp/Glu/Gly/Gln or Phe165Ser/Ala/Thr/  
CC His/Lys/Arg/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
CC comprising (V) or (VI); (5) increasing (W2) the functional in vivo half-  
CC life or the serum half-life of a parent protein C polypeptide. The  
CC conjugates, variants and protein C proteins are useful as medicaments,  
CC and in the manufacture of medicaments for the treatment (and  
CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow

transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AA099002 and the information in claim 9  
 CC  
 XX Sequence 419 AA:  
 XX  
 XX  
 Query Match 99.4%; Score 2309; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 2,9e-142;  
 Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
 QY 1 ANSFLELRHSSLEKECTEIEICDFEAKELFQNVDDTLAPWKNVGDQCLVPLBHPCA 60  
 Db 1 ANSFLELRHSSLEKECTEIEICDFEAKELFQNVDDTLAPWKNVGDQCLVPLBHPCA 60  
 QY 61 SLCCGHTCTIDIGISFSCDCRSWESRFQREVSFLNCSLDNGGCTHCHLEEVGMRRCSC 120  
 Db 61 SLCCGHTCTIDIGISFSCDCRSWESRFQREVSFLNCSLDNGGCTHCHLEEVGMRRCSC 120  
 QY 121 APGYKGGDILLOCHPAVKEPCGRPWKMEKKSHPKDTEDGDQDVPRLIDGMGMPRRG 180  
 Db 121 APGYKGGDILLOCHPAVKEPCGRPWKMEKKSHPKDTEDGDQDVPRLIDGMGMPRRG 180  
 QY 121 APGYKGGDILLOCHPAVKEPCGRPWKMEKKSHPKDTEDGDQDVPRLIDGMGMPRRG 180  
 Db 121 APGYKGGDILLOCHPAVKEPCGRPWKMEKKSHPKDTEDGDQDVPRLIDGMGMPRRG 180  
 QY 181 SPMQVVLDSKKKLACGAVLIHPSWVLTAAHCMESKKLTVRLGEYDLRREKXELDLDI 240  
 Db 181 SPMQVVLDSKKKLACGAVLIHPSWVLTAAHCMESKKLTVRLGEYDLRREKXELDLDI 240  
 QY 241 KEVVFHNYSKSTTNDIALIHLAOPATISQTTVPICLPSGIAELNQGSGTTLVTCW 300  
 Db 241 KEVVFHNYSKSTTNDIALIHLAOPATISQTTVPICLPSGIAELNQGSGTTLVTCW 300  
 QY 301 GYHSSREKAKENRTFFVNFKIPVPEHNECEVSNVWSENNLCAGIIGROPACGDS 360  
 Db 301 GYHSSREKAKENRTFFVNFKIPVPEHNECEVSNVWSENNLCAGIIGROPACGDS 360  
 QY 361 GPMVVASFHGTWFLVGLVSWGEGGGLLHNYGVYTVKSRXYLDWIHGIHDKAPQKSWAP 419  
 Db 361 GPMVVASFHGTWFLVGLVSWGEGGGLLHNYGVYTVKSRXYLDWIHGIHDKAPQKSWAP 419  
 RESULT 126  
 AAU99093  
 ID AAU99093 standard; protein; 419 AA.  
 XX  
 AC AAU99093;  
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 DT 23-ANG-2002 (first entry)  
 XX  
 DE Human Protein C zymogen protein mutant H388N/Y309S.  
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 XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; ARDS; conjugant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX

PH Key Location/Qualifiers  
 FT Protein 1..155  
 FT /label= Light\_chain  
 FT Peptide 156..157  
 FT /label= Lys\_Arg\_dipeptide  
 FT Protein 158..419  
 FT /label= Heavy\_chain  
 FT Peptide 158..169  
 FT /label= Activation\_peptide  
 FT Misc-difference 388  
 FT /note= "Wild-type His substituted by Asn"  
 FT Misc-difference 390  
 FT /note= "Wild-type Tyr substituted by Ser"  
 XX  
 XX W0200232461-A2.  
 PD 25-APR-2002.  
 XX  
 XX 15-OCT-2001; 2001MO-DK000679.  
 XX  
 XX 18-OCT-2000; 2000DK-00001560.  
 PR 18-OCT-2000; 2000US-0242268P.  
 PR 21-JUN-2001; 2001DK-0000970.  
 PR 21-JUN-2001; 2001US-0300154P.  
 XX  
 PA (MAXY-) MAXYGEN APS.  
 PA (MAXY-) MAXYGEN HOLDINGS LTD.  
 XX  
 PI Andersen KV, Pedersen AH, Freshgard PO.  
 DR WPI; 2002-489875/52.  
 XX  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
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 XX Claim 9; Page; 92pp; English.  
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 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
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 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (P) where (P) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln/  
 CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
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 CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections,  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the antiinflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not

CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 XX Sequence 419 AA;  
 Query Match 99.3%; Score 2308; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 3.3e-142;  
 Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;  
 QY 1 ANSFLEIRHSLRECEIEICDFEAKETFGVNDTLAFNSKAVDGDQCLVPLEHPCA 60  
 DB 1 ANSFLEIRHSLRECEIEICDFEAKETFGVNDTLAFNSKAVDGDQCLVPLEHPCA 60  
 QY 61 SLCCGHTCIDIGISFSCDCRSGWGRFCQREVSVFNSGCLNDCGCTHYCLEEVRGRSC 120  
 DB 61 SLCCGHTCIDIGISFSCDCRSGWGRFCQREVSVFNSGCLNDCGCTHYCLEEVRGRSC 120  
 QY 121 APGYKLGDLLQCHPAVPCGRPWKMEKKRSHLRDTEDEQVDPRLIDGKMTRRGD 180  
 DB 121 APGYKLGDLLQCHPAVPCGRPWKMEKKRSHLRDTEDEQVDPRLIDGKMTRRGD 180  
 QY 181 SPQVVLDSKKKLCAGAVLHPSWTLAAHCDSEKLLVLESEYDIRMKEKELDDI 240  
 DB 181 SPQVVLDSKKKLCAGAVLHPSWTLAAHCDSEKLLVLESEYDIRMKEKELDDI 240  
 QY 241 KEVYHPNYSKTTDNDIALHQAQATLSQITVPCLPDSEAREINAGGETLVYGM 300  
 DB 241 KEVYHPNYSKTTDNDIALHQAQATLSQITVPCLPDSEAREINAGGETLVYGM 300  
 QY 301 GYHSREKARNTFVAFNIKI PVVPENECEVMSNMVSENMICAGILGDRDACEGDS 360  
 DB 301 GYHSREKARNTFVAFNIKI PVVPENECEVMSNMVSENMICAGILGDRDACEGDS 360  
 QY 361 GGMVASPHGTFWFLVGSWBGCGLLNNSGVYTKVSRVLDWIRGHIRDEAPQKSWAP 419  
 DB 361 GGMVASPHGTFWFLVGSWBGCGLLNNSGVYTKVSRVLDWIRGHIRDEAPQKSWAP 419  
 RESULT 127  
 AAU99094  
 ID AAU99094 standard; protein: 419 AA.  
 XX  
 AC AAU99094;  
 XX  
 DT 23-AUG-2002 (first entry)  
 DE  
 XX Human Protein C zymogen protein mutant H388N/Y390T.  
 XX  
 KW Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
 KW serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
 KW after venous thrombosis; disseminated intravascular coagulation; DIC;  
 KW sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
 KW bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
 KW adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 FH Key  
 FT Protein 1.155 Location/Qualifiers  
 FT Peptide /label= Light\_chain  
 FT Peptide /label= Lys\_157  
 FT Protein /label= Lys\_Arg\_dipeptide  
 FT Peptide /label= Heavy\_chain  
 FT Peptide /label= 158..169  
 FT Misc-difference 388 /label= Activation\_peptide  
 FT Misc-difference 390 /note= "Wild-type His substituted by Asn"  
 FT Misc-difference 390 /note= "Wild-type Tyr substituted by Thr"  
 PN WO200232461-A2.

XX  
 PD 25-APR-2002.  
 XX  
 XX 15-OCT-2001; 2001WO-DK00679.  
 XX  
 XX 18-OCT-2000; 2000DK-00001560.  
 XX 18-OCT-2000; 2000US-0242268P.  
 XX 21-UN-2001; 2001DK-0000970.  
 XX 21-UN-2001; 2001US-0300154P.  
 XX (MAXY-) MAXYGEN APS.  
 XX (MAXY-) MAXYGEN HOLDINGS LTD.  
 XX  
 PI Andersen KV, Pedersen AH, Freskgard PO;  
 DR WPL 2002-489875/52.  
 XX  
 PT Novel conjugate useful for treating or preventing septic shock, stroke  
 PT and myocardial infarction, comprises non-polypeptide group covalently  
 PT attached to protein C polypeptide comprising an attachment group.  
 XX  
 PS Claim 9; Page; 92pp; English.  
 XX  
 CC The invention relates to a conjugate (I) comprising at least one non-  
 CC polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
 CC a protein C polypeptide comprising an amino acid sequence which differs  
 CC from that of a parent protein C polypeptide (III) in at least one  
 CC introduced and/or at least one removed amino acid residue comprising an  
 CC attachment group for the non-polypeptide group (e.g. an N-glycosylation  
 CC site). Also included are (1) a variant (IV) of (III) comprising a  
 CC substitution in a position (p) where (p) is an amino acid with at least  
 CC 25% of its side group exposed to the surface, with the proviso that the  
 CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln,  
 CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
 CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
 CC comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-  
 CC life or the serum half-life of a parent protein C polypeptide. The  
 CC conjugates, variants and protein C proteins are useful as medicaments,  
 CC and in the manufacture of medicaments for the treatment (and  
 CC diagnosis/prevention) of stroke, myocardial infarction (MCI), sepsis, septic  
 CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
 CC transplantation, burns, pregnancy, major surgery/trauma or adult  
 CC respiratory distress syndrome (ARDS). The variant protein C has an  
 CC increased resistance to activation by e.g. human plasma and alpha-1  
 CC antitrypsin. The conjugates have an increased in vivo half-life,  
 CC increased serum half-life, increased resistance to inhibitors, reduced  
 CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
 CC The conjugate offers a number of advantages over the currently available  
 CC APC products, including longer duration between injections, Moreover, a  
 CC administration of less protein, and fewer side effects. Moreover, a  
 CC reduced anticoagulant activity is beneficial to reduce the risk of  
 CC bleeding while maintaining the anti-inflammatory activity of APC  
 CC (activated protein C) conjugates. This must be especially important when  
 CC the conjugate has an extended plasma life. The gene for protein C is  
 CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
 CC protein C variant of the invention. Note: The present sequence is not  
 CC shown in the specification but was created by the indexer using the  
 CC protein C sequence appearing as AAU99002 and the information in claim 9  
 XX  
 SQ Sequence 419 AA;  
 Query Match 99.3%; Score 2308; DB 5; Length 419;  
 Best Local Similarity 99.5%; Pred. No. 3.3e-142;  
 Matches 417; Conservative 1; Mismatches 1; Indels 0; Gaps 0;  
 QY 1 ANSFLEIRHSLRECEIEICDFEAKETFGVNDTLAFNSKAVDGDQCLVPLEHPCA 60  
 DB 1 ANSFLEIRHSLRECEIEICDFEAKETFGVNDTLAFNSKAVDGDQCLVPLEHPCA 60  
 QY 61 SLCCGHTCIDIGISFSCDCRSGWGRFCQREVSVFNSGCLNDCGCTHYCLEEVRGRSC 120

Db 61 SLCCGHTCIDIGSFSCDCRSQWEGRFQREVSFLNCSLNDGCTHYCLEEYGNRRSC 120

Qy 121 APGYKLGDDLLQCHPAVKFPCGRPMKMEKRSKSLKRTDEDEQVDPRLIDGKTRRGD 180

Db 121 APGYKLGDDLLQCHPAVKFPCGRPMKMEKRSKSLKRTDEDEQVDPRLIDGKTRRGD 180

Qy 181 SPQOVVLLDSKKKLACGAVLHPSPVLTAAHCMDSSKKLVRLGEYLRKMEKELDDI 240

Db 181 SPQOVVLLDSKKKLACGAVLHPSPVLTAAHCMDSSKKLVRLGEYLRKMEKELDDI 240

Qy 241 KEVFAHPNYSKSTTDNDIALHLAQPATLSQTIPICLPDSGLARELNQAGETLVTVGM 300

Db 241 KEVFAHPNYSKSTTDNDIALHLAQPATLSQTIPICLPDSGLARELNQAGETLVTVGM 300

Qy 301 GHSSREKAKRRNTFVLTNFKIPVPHNECSFWSNMVSENNLCAGILGRDADCEGDS 360

Db 301 GHSSREKAKRRNTFVLTNFKIPVPHNECSFWSNMVSENNLCAGILGRDADCEGDS 360

Qy 361 GSPMVASPHGTWFLVGLVSWEGCGLLNRYGVYTKVSRYLDMVHGHIRDEKAPQKSMAP 419

Db 361 GSPMVASPHGTWFLVGLVSWEGCGLLNRYGVYTKVSRYLDMVHGHIRDEKAPQKSMAP 419

RESULT 128

ID AAU99089 standard; protein: 419 AA.

AC AAU99089;

XX 23-AUG-2002 (first entry)

XX Human Protein C zymogen protein mutant L386N/H388S.

XX Human, Protein C; N-glycosylation; APC; activated protein C; zymogen; serum half-life; chromosome 2q13-q14; stroke; myocardial infarction; after venous thrombosis; disseminated intravascular coagulation; DIC; sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy; bone marrow transplantation; major surgery; trauma; AIDS; coagulant; adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.

OS Homo sapiens.

OS Synthetic.

XX Key Location/Qualifiers

FT Protein 1..155 /label= Light\_chain

FT Peptide 156..157 /label= Lys\_Arg\_dipeptide

FT Protein 158..419 /label= Heavy\_chain

FT Peptide 158..169 /label= Activation\_peptide

FT Misc-difference 386 /note= "Wild-type Leu substituted by Asn"

FT FT Misc-difference 388 /note= "Wild-type His substituted by Ser"

XX PN W0200232461-A2.

XX 25-APR-2002.

XX 15-OCT-2001; 2001WO-DK000679.

XX 18-OCT-2000; 2000OK-00001560.

XX 18-OCT-2000; 2000US-0242268P.

XX 21-JUN-2001; 2001DK-0000970.

XX 21-JUN-2001; 2001US-0300154P.

XX (MAXY-) MAXYGEN APS.

XX (MAXY-) MAXYGEN HOLDINGS LTD.

XX Andersen KV, Pedersen AH, Freshgaard PO.

DR WPI; 2002-489875/52.

XX Novel conjugate useful for treating or preventing septic shock, stroke and myocardial infarction, comprises non-polypeptide group covalently attached to protein C polypeptide comprising an attachment group.

PS Claim 9; Page; 92pp; English.

XX The invention relates to a conjugate (I) comprising at least one non-polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to a protein C polypeptide comprising an amino acid sequence which differs from that of a parent protein C polypeptide (III) in at least one introduced and/or at least one removed amino acid residue comprising an attachment group for the non-polypeptide group (e.g. an N-glycosylation site). Also included are (1) a variant (IV) of (III) comprising a substitution in a position (P) where (P) is an amino acid with at least 2% of its side group exposed to the surface, with the proviso that the substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln, Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII) comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-life of the serum half-life of a parent protein C polypeptide. The conjugates, variants and protein C proteins are useful as medicaments, and in the manufacture of medicaments for the treatment (and diagnosis/prevention) of stroke, myocardial infarction, after venous thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow transplantation, burns, pregnancy, major surgery/trauma or adult respiratory distress syndrome (ARDS). The variant protein C has an increased resistance to activation by e.g. human plasma and alpha-1 antitrypsin. The conjugates have an increased in vivo half-life, increased serum half-life, increased resistance to inhibitors, reduced renal clearance, reduced immunogenicity and/or increased bioavailability. The conjugate offers a number of advantages over the currently available APC products, including longer duration between injections, a reduction of less protein, and fewer side effects. Moreover, a reduced anticoagulant activity is beneficial to reduce the risk of bleeding while maintaining the antiinflammatory activity of APC (activated protein C) conjugates. This must be especially important when the conjugate has an extended plasma life. The gene for protein C is located on chromosome 2q13-q14. The present sequence represents a zymogen protein C variant of the invention. Note: The present sequence is not shown in the specification but was created by the indexer using the protein C sequence appearing as AAU99002 and the information in claim 9

XX Sequence 419 AA:

SQ

Query Match 99.3%; Score 2308; DB 5; Length 419;

Best Local Similarity 99.5%; Pred. No. 3.3e-142;

Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 ANSFLEIRRSLSRECEIEICDPEEKETFDVDDTAAFMKHYNDQCVLPLEHCA 60

Db 1 ANSFLEIRRSLSRECEIEICDPEEKETFDVDDTAAFMKHYNDQCVLPLEHCA 60

Qy 61 SLCCGHTCIDIGSFSCDCRSQWEGRFQREVSFLNCSLNDGCTHYCLEEYGNRRSC 120

Db 61 SLCCGHTCIDIGSFSCDCRSQWEGRFQREVSFLNCSLNDGCTHYCLEEYGNRRSC 120

Qy 121 APGYKLGDDLLQCHPAVKFPCGRPMKMEKRSKSLKRTDEDEQVDPRLIDGKTRRGD 180

Db 121 APGYKLGDDLLQCHPAVKFPCGRPMKMEKRSKSLKRTDEDEQVDPRLIDGKTRRGD 180

Qy 181 SPQOVVLLDSKKKLACGAVLHPSPVLTAAHCMDSSKKLVRLGEYLRKMEKELDDI 240

Db 181 SPQOVVLLDSKKKLACGAVLHPSPVLTAAHCMDSSKKLVRLGEYLRKMEKELDDI 240

Qy 241 KEVFAHPNYSKSTTDNDIALHLAQPATLSQTIPICLPDSGLARELNQAGETLVTVGM 300

Db 241 KEVFAHPNYSKSTTDNDIALHLAQPATLSQTIPICLPDSGLARELNQAGETLVTVGM 300

Qy 301 GHSSREKAKRRNTFVLTNFKIPVPHNECSFWSNMVSENNLCAGILGRDADCEGDS 360

DB 301 GYHSREKAKRRTFTLVNFKITPVVNECEVMSNVSENNLCAGITIGRQDACGDS 360  
QY 361 GGPVWASFHGTWFLVGLVSWGCGCLAHNYGYTYVSRYLDMTHIGHIRDKAPQKSWAP 419  
DB 361 GGPVWASFHGTWFLVGLVSWGCGCLAHNYGYTYVSRYLDMTHIGHIRDKAPQKSWAP 419

RESULT 129  
AAU99090  
ID AAU99090 standard; protein; 419 AA.  
AC AAU99090;  
DT 23-AUG-2002 (first entry)  
XX Human Protein C zymogen protein mutant L386N/H387R.  
XX  
XX Human; Protein C; N-glycosylation; APC; activated protein C; zymogen;  
XX serum half-life; chromosome 2q13-q14; stroke; myocardial infarction;  
XX after venous thrombosis; disseminated intravascular coagulation; DIC;  
XX sepsis; septic shock; embolism; pulmonary embolism; burn; pregnancy;  
XX bone marrow transplantation; major surgery; trauma; ARDS; coagulant;  
XX adult respiratory distress syndrome; alpha-1 antitrypsin; mutant; mutein.  
OS Homo sapiens.  
OS Synthetic.  
XX  
XX Key Location/Qualifiers  
FH Protein 1..155  
FT /label= Light\_chain  
FT Peptide 156..157  
FT /label= Lys\_Arg\_dipeptide  
FT Protein 158..419  
FT /label= Heavy\_chain  
FT Peptide 158..169  
FT /label= Activation\_peptide  
FT Misc-difference 386 /note= "Wild-type Leu substituted by Asn"  
FT /note= "Wild-type His substituted by Thr"  
FT Misc-difference 388 /note= "Wild-type His substituted by Thr"  
XX  
XX W0200232461-A2.  
XX  
XX 25-APR-2002.  
XX  
XX 15-OCT-2001; 2001MO-DK000679.  
XX  
XX 18-OCT-2000; 2000DK-00001560.  
XX 18-OCT-2000; 2000US-0242268P.  
XX 21-JUN-2001; 2001DK-00000970.  
XX 21-JUN-2001; 2001US-0300154P.  
XX  
XX (MAXY-) MAXYGEN ABS.  
XX (MAXY-) MAXYGEN HOLDINGS LTD.  
XX  
XX Andersen KV, Pedersen AH, Freckgaard PO;  
XX  
XX WPI, 2002-489875/52.  
XX  
XX Novel conjugate useful for treating or preventing septic shock, stroke  
XX and myocardial infarction, comprises non-polypeptide group covalently  
XX attached to protein C polypeptide comprising an attachment group.  
XX  
XX  
XX Claim 9; Page; 92pp; English.  
XX  
XX The invention relates to a conjugate (I) comprising at least one non-  
XX polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to  
XX a protein C polypeptide comprising an amino acid sequence which differs  
XX from that of a parent protein C polypeptide (III) in at least one  
XX introduced and/or at least one removed amino acid residue comprising an  
XX attachment group for the non-polypeptide group (e.g. an N-glycosylation  
XX site). Also included are (1) a variant (IV) of (III) comprising a

CC substitution in a position (P) where (P) is an amino acid with at least  
CC 25 of its side group exposed to the surface, with the proviso that the  
CC substitution is not Thr245Ser/Ala/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln/  
CC Tyr302Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe316Ser/Ala/Thr/  
CC His/Lys/Arg/Asn/Asp/Glu/Gly/Gln; (2) a nucleotide sequence (V) encoding  
CC (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)  
CC comprising (V) or (VI); (5) increasing (W2) the functional in vivo half-  
CC life or the serum half-life of a parent protein C polypeptide. The  
CC conjugates, variants and protein C proteins are useful as medicaments,  
CC and in the manufacture of medicaments for the treatment (and  
CC diagnosis/prevention) of stroke, myocardial infarction, after venous  
CC thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic  
CC shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow  
CC transplantation, burns, pregnancy, major surgery/trauma or adult  
CC respiratory distress syndrome (ARDS). The variant protein C has an  
CC increased resistance to activation by e.g. human plasma and alpha-1  
CC antitrypsin. The conjugates have an increased in vivo half-life,  
CC increased serum half-life, increased resistance to inhibitors, reduced  
CC renal clearance, reduced immunogenicity and/or increased bioavailability.  
CC The conjugate offers a number of advantages over the currently available  
CC APC products, including longer duration between injections,  
CC administration of less protein, and fewer side effects. Moreover, a  
CC reduced anticoagulant activity is beneficial to reduce the risk of  
CC bleeding while maintaining the antiinflammatory activity of APC  
CC (activated protein C) conjugates. This must be especially important when  
CC the conjugate has an extended plasma life. The gene for protein C is  
CC located on chromosome 2q13-q14. The present sequence represents a zymogen  
CC protein C variant of the invention. Note: The present sequence is not  
CC shown in the specification but was created by the indexer using the  
CC protein C sequence appearing as AAU99002 and the information in claim 9  
XX  
XX SQ Sequence 419 AA;  
XX  
XX Query Match 99.3%; Score 2307; DB 5; Length 419;  
XX Best Local Similarity 99.5%; Pred. No. 3.9e-142;  
XX Matches 417; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
QY 1 ANSFELRHSLSRECEIEICDFEAKEIFQNVDTLAFMSKHDVGDQCLVPLEHPQA 60  
DB 1 ANSFELRHSLSRECEIEICDFEAKEIFQNVDTLAFMSKHDVGDQCLVPLEHPQA 60  
QY 61 SLCCGGTCTIDIGSFCDRCSGMERFCOREVSEFLNCSLDNGGCTHCLSEVGMRCSC 120  
DB 61 SLCCGGTCTIDIGSFCDRCSGMERFCOREVSEFLNCSLDNGGCTHCLSEVGMRCSC 120  
QY 121 APGYKLGDLLQCHPAVPCGAPMKRMEKRSLSKEDTEDEQDVDPRLIDGKMTRRGD 180  
DB 121 APGYKLGDLLQCHPAVPCGAPMKRMEKRSLSKEDTEDEQDVDPRLIDGKMTRRGD 180  
QY 181 SPWQVVLIDSKKKKLAAGAVLIHRSWVLTAAHOMDESCKLIVRLEVDLRRMEKELDLDI 240  
DB 181 SPWQVVLIDSKKKKLAAGAVLIHRSWVLTAAHOMDESCKLIVRLEVDLRRMEKELDLDI 240  
QY 241 KEVFPVHNSKSTNDNDIALHLAOPATISQTIPTICLPSPGLARELNQAGQETLVGM 300  
DB 241 KEVFPVHNSKSTNDNDIALHLAOPATISQTIPTICLPSPGLARELNQAGQETLVGM 300  
QY 301 GYHSREKAKRRTFTLVNFKITPVVNECEVMSNVSENNLCAGITIGRQDACGDS 360  
DB 301 GYHSREKAKRRTFTLVNFKITPVVNECEVMSNVSENNLCAGITIGRQDACGDS 360  
QY 361 GGPVWASFHGTWFLVGLVSWGCGCLAHNYGYTYVSRYLDMTHIGHIRDKAPQKSWAP 419  
DB 361 GGPVWASFHGTWFLVGLVSWGCGCLAHNYGYTYVSRYLDMTHIGHIRDKAPQKSWAP 419

RESULT 130  
AAB82675  
ID AAB82675 standard; protein; 419 AA.  
XX AAB82675;  
AC AAB82675;  
XX  
XX 15-OCT-2001 (first entry)

XX Human protein C derivative (S11G/Q32E/N33D/L194S).

DE Protein C; human; coronary syndrome; thrombosis; angina;

XX myocardial infarction; vascular occlusion; hypercoagulation;

KM sepsis; protein C deficiency; occlusion; thromboembolism; stenosis;

KW antibacterial; immunosuppressive; thrombolytic; cardiac; antiangiinal;

KX anticoagulant; therapy; mutant; mutein.

XX Homo sapiens.

OS Synthetic.

XX

PH Key Location/Qualifiers

FT Domain 1..45

FT /note= "Gla domain"

FT Modified-site 6

FT /note= "gamma-carboxylated"

FT Modified-site 7

FT /note= "gamma-carboxylated"

FT Misc-difference 11

FT /note= "Ser in wild-type protein"

FT Modified-site 14

FT /note= "gamma-carboxylated"

FT Modified-site 16

FT /note= "gamma-carboxylated"

FT Modified-site 19

FT /note= "gamma-carboxylated"

FT Modified-site 20

FT /note= "gamma-carboxylated"

FT Modified-site 25

FT /note= "gamma-carboxylated"

FT Modified-site 26

FT /note= "gamma-carboxylated"

FT Modified-site 29

FT /note= "gamma-carboxylated"

FT Misc-difference 32

FT /note= "N-glycosylated"

FT Misc-difference 33

FT /note= "Gln in wild-type protein"

FT Misc-difference 33

FT /note= "Asn in wild-type protein"

FT Disulfide-bond 50..69

FT Disulfide-bond 59..64

FT Disulfide-bond 80..89

FT Disulfide-bond 98..109

FT Disulfide-bond 120..133

FT Disulfide-bond 141..277

FT Disulfide-bond 156..157

FT /note= "Cleaveage makes a 2-chain inactive precursor (155-amino acid light chain attached via a disulfide bond to a 263-amino acid heavy chain)"

FT Peptide 158..169

FT /note= "activation peptide; removal activates the 2-chain zymogen"

FT Cleavage-site 169..170

FT /note= "thrombin cleavage site"

FT Misc-difference 194

FT /note= "Leu in wild-type protein"

FT Disulfide-bond 248

FT /note= "N-glycosylated"

FT Modified-site 313

FT /note= "N-glycosylated"

FT Modified-site 329

FT /note= "N-glycosylated"

FT Disulfide-bond 331..345

FT Disulfide-bond 356..384

XX WO200157193-A2.

XX

XX 09-AUG-2001.

XX

XX 19-JAN-2001; 2001WO-US000020.

XX

XX 02-FEB-2000; 2000US-0179801P.

PR 14-MAR-2000; 2000US-0189197P.

XX (ELLI ) LILLY & CO ELLI.

XX Gerlitz BE, Jones BE,

XX WPL: 2001-496919/54.

DR N-PSDB; AAH26363.

XX Novel human protein C derivative for treating, e.g., myocardial

PT infarction, unstable angina, sepsis, thrombotic disorders, acute arterial

PT thrombotic occlusion, and thromboembolism.

XX

XX Claim 3; Page 52-53; 63pp; English.

CC The present sequence is that of a claimed human protein C derivative in

CC which Ser at amino acid position 11 of the mature wild-type protein C

CC sequence (see AAB82673) is substituted with Gly, Gln at position 32 with

CC Gln, Asn at position 33 with Asp, and Leu at position 194 with Ser. The

CC protein is an example of protein C derivatives of the invention that have

CC at least 2 amino acid substitutions, but which have increased

CC anticoagulant activity and resistance to inactivation by sepsin compared

CC with the wild-type protein, while retaining the biological activity of

CC the wild-type protein. A method of producing the derivatives using

CC recombinant DNA methods is claimed. The protein C derivatives are useful

CC for treating coronary syndromes and disease states predisposing to

CC thrombosis (e.g. myocardial infarction and unstable angina), vascular

CC occlusive disorders and hypercoagulable states, sepsis (in combination

CC with bactericidal permeability increasing protein or with tissue factor

CC pathway inhibitor), thrombotic disorders (in combination with an anti-

CC platelet agent or by local delivery through an intracoronary catheter),

CC protein C deficiency, acute arterial thrombotic occlusion,

CC thromboembolism, or stenosis in coronary, cerebral or peripheral arteries

CC or in vascular grafts. Human patients with genetically predisposed

CC prothrombotic disorders may be treated by gene therapy (all claimed)

XX

## SQ Sequence 419 AA:

Query Match 99.2%; Score 2306; DB 4; Length 419;

Best Local Similarity 99.0%; Pred. No. 4, 5e-142;

Matches 415; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 ANSFLEELRHSLSERCEIEICDFEAKELFQVNDDTLAFMSKVDGQCLVPLEHPCA 60

DB 1 ANSFLEELRHSLSERCEIEICDFEAKELFEDVDTLAFMSKVDGQCLVPLEHPCA 60

QY 61 SLCCGHGTCIDIGSGSCDCSGSGWGRFCQREVSFLNSLNGGCTHYCLEEVMRRSC 120

DB 61 SLCCGHGTCIDIGSGSCDCSGSGWGRFCQREVSFLNSLNGGCTHYCLEEVMRRSC 120

QY 121 APGYLGGDLLQCHPAVKPCGRPWKMEKKRSHLKDTEDEQDOVDPRLIDKMTRRGD 180

DB 121 APGYLGGDLLQCHPAVKPCGRPWKMEKKRSHLKDTEDEQDOVDPRLIDKMTRRGD 180

QY 181 SPQVVLIDSKKSLACGAVLHPSVTLTAACHDDESKLLVRLGEYLRMEWEMLDDI 240

DB 181 SPQVVLIDSKKSLACGAVLHPSVTLTAACHDDESKLLVRLGEYLRMEWEMLDDI 240

QY 241 KEVFPHPVSKSTDDNDLALHAPATLSQTVPLCCPDGSLERLINAQGETLVYGM 300

DB 241 KEVFPHPVSKSTDDNDLALHAPATLSQTVPLCCPDGSLERLINAQGETLVYGM 300

QY 301 GYHSREKEARNTFVLFNFIKIPVPHNECSVMNWSNMUACGILDRQACEDGS 360

DB 301 GYHSREKEARNTFVLFNFIKIPVPHNECSVMNWSNMUACGILDRQACEDGS 360

QY 361 GGPVVASPHGTWPLVGLVSGGCGILLANVCYTKYSRLTDMHGHTRDEAKQKSNAP 419

DB 361 GGPVVASPHGTWPLVGLVSGGCGILLANVCYTKYSRLTDMHGHTRDEAKQKSNAP 419

RESULT 131

AARI3537



ID AAR13537 standard; protein; 460 AA.  
 AC AAR13537;  
 DT 25-MAR-2003 (revised)  
 DT 09-JAN-2003 (revised)  
 DT 31-OCT-1991 (first entry)  
 DE Human Protein C zymogen N.  
 KW HPC mutant; pro drug; intravascular coagulation; zymogen.  
 OS Homo sapiens.  
 FH Key Location/Qualifiers  
 FT Region 198..199  
 FT /label= Lys-Arg dipeptide  
 PN EP443875-A.  
 PD 28-AUG-1991.  
 PF 22-FEB-1991; 91EP-00301450.  
 PR 23-FEB-1990; 90US-00484133.  
 RA (EHLI) LILLY & CO ELI.  
 PI Gerlitz BE, Grinnell BW;  
 DR WPI, 1991-254444/35.  
 XX  
 PT Recombinant mutants of human protein C - having aminoacid changes for  
 PT increased sensitivity to activation by thrombin and thrombin-  
 PT thrombomodulin complex.  
 XX  
 PS Claim 23; Page 37-38; 67pp; English.  
 XX  
 CC Protein C Zymogen N comprises a signal peptide and propeptide of a gamma-  
 CC carboxylated secreted protein, the light chain of HPC, a basic dipeptide  
 CC (1.e. Lys-Arg, but can also be Arg-Lys, Lys-Lys or Arg-Arg) and amino  
 CC acid residues 200-461 of HPC but with Ile(213) deleted and Asp(214)  
 CC replaced by Asn. The zymogen can be activated in vivo by thrombin alone  
 CC (even in the presence of calcium) and is more susceptible to activation  
 CC by thrombin/ thrombomodulin than native HPC zymogen. Zymogen N can be  
 CC administered as a pro drug useful in prevention and treatment of diseases  
 CC involving intravascular coagulation. It can also be given to  
 CC thrombocytopenic patients with invasive cancers with effective and  
 CC intensive chemotherapy. See also AAR13538-40 and AAR13623. (Updated on 09  
 CC -JAN-2003 to add missing OS field.) (Updated on 25-MAR-2003 to correct PA  
 CC field.)  
 CC  
 XX  
 XX  
 SQ Sequence 460 AA;  
 Query Match 99.2%; Score 2304.5; DB 2; Length 460;  
 Best Local Similarity 99.5%; Pred. No. 6.2e-142;  
 Matches 417; Conservative 1; Mismatches 0; Indels 1; Gaps 1;  
 QY 1 ANSTLEELHSSLEECLEELCDPEFAKTIQNDPLTAMSRHNDGOCVLPLEHPA 60  
 DB 43 ANSTLEELHSSLEECLEELCDPEFAKTIQNDPLTAMSRHNDGOCVLPLEHPA 102  
 QY 61 SLCCGHTCTCIDISGFSQDCRSQMEGRFCOREVSLNCSLDNGGCTHYCLEEVGWRRCSC 120  
 DB 103 SLCCGHTCTCIDISGFSQDCRSQMEGRFCOREVSLNCSLDNGGCTHYCLEEVGWRRCSC 162  
 QY 121 APGYKLGDDLLQCHPAVFPQGRPMKMKKRSKHKDTDDQDYDPRLLIDGMTRRGD 180  
 DB 163 APGYKLGDDLLQCHPAVFPQGRPMKMKKRSKHKDTDDQDYDPRLLIDGMTRRGD 221  
 QY 181 SPQGVVLLDSKKKLLAGAVLIHPSWLTAAHOMBSKKLLVRLGKYDLRMKKEKLELDLI 240  
 DB 222 SPQGVVLLDSKKKLLAGAVLIHPSWLTAAHOMBSKKLLVRLGKYDLRMKKEKLELDLI 281

QY 241 KEVFNPNVSKSTTNDIALHAPATTSQTVPCLPDGSGLERELNAGQETLYTGM 300  
 DB 282 KEVFNPNVSKSTTNDIALHAPATTSQTVPCLPDGSGLERELNAGQETLYTGM 341  
 QY 301 GYHSREKEAKRNTFVLPNFIKIPVPHNECEYMSNMVSENMLCAGILDRDACEGDS 360  
 DB 342 GYHSREKEAKRNTFVLPNFIKIPVPHNECEYMSNMVSENMLCAGILDRDACEGDS 401  
 QY 361 GGPVVASFHGTWPLVGLVNSGSCGLHNYCVYTKYSRLIDMIRGHIPDKAARQKSNAP 419  
 DB 402 GGPVVASFHGTWPLVGLVNSGSCGLHNYCVYTKYSRLIDMIRGHIPDKAARQKSNAP 460  
 RESULT 132  
 AAB82676  
 ID AAB82676 standard; protein; 419 AA.  
 AC AAB82676;  
 XX  
 DT 15-OCT-2001 (first entry)  
 DE Human protein C derivative (S11G/Q32E/N33D/L194S/T254S).  
 KW Protein C; human; coronary syndrome; thrombosis; angina;  
 KW myocardial infarction; vascular occlusive disorder; hypercoagulation;  
 KW sepsis; protein C deficiency; occlusion; thromboembolism; stenosis;  
 KW antibacterial; immunosuppressive; thrombolytic; cardiac; antidiabetic;  
 KW anticoagulant; therapy; mutant; mutein.  
 OS Homo sapiens.  
 OS Synthetic.  
 FH Key Location/Qualifiers  
 FT Domain 1..45  
 FT /note= "G1a domain"  
 FT Modified-site 6  
 FT /note= "gamma-carboxylated"  
 FT Modified-site 7  
 FT /note= "gamma-carboxylated"  
 FT Misc-difference 11  
 FT /note= "Ser in wild-type protein"  
 FT Modified-site 14  
 FT /note= "gamma-carboxylated"  
 FT Modified-site 16  
 FT /note= "gamma-carboxylated"  
 FT Modified-site 19  
 FT /note= "gamma-carboxylated"  
 FT Modified-site 20  
 FT /note= "gamma-carboxylated"  
 FT Modified-site 25  
 FT /note= "gamma-carboxylated"  
 FT Modified-site 26  
 FT /note= "gamma-carboxylated"  
 FT Modified-site 29  
 FT /note= "gamma-carboxylated"  
 FT Modified-site 32  
 FT /note= "N-glycosylated"  
 FT Misc-difference 33  
 FT /note= "Gln in wild-type protein"  
 FT Misc-difference 33  
 FT /note= "Asn in wild-type protein"  
 FT Disulfide-bond 50..69  
 FT Disulfide-bond 59..64  
 FT Disulfide-bond 80..89  
 FT Disulfide-bond 98..109  
 FT Disulfide-bond 120..133  
 FT Disulfide-bond 141..277  
 FT Cleavage-site 156..157  
 FT /note= "Cleavage makes a 2-chain inactive precursor (155-  
 FT amino acid light chain attached via a disulfide bond to a  
 FT 262-amino acid heavy chain)"  
 FT 158..169  
 FT /note= "activation peptide; removal activates the 2-chain  
 FT zymogen"

```

FT Cleavage-site 169..170
FT /note="thrombin cleavage site"
FT Misc-difference 194
FT /note="Leu in wild-type protein"
FT Disulfide-bond 196..212
FT Modified-site 248
FT /note="N-glycosylated"
FT Misc-difference 254
FT /note="Thr in wild-type protein"
FT Modified-site 313
FT /note="N-glycosylated"
FT Modified-site 329
FT /note="N-glycosylated"
FT Disulfide-bond 331..345
FT Disulfide-bond 356..384
XX WO200157193-A2.
XX
XX 09-AUG-2001.
XX
XX 19-JAN-2001; 2001WO-US000020.
XX
XX 02-FEB-2000; 2000US-0179801P.
XX 14-MAR-2000; 2000US-0189197P.
XX
XX (ELIL ) LILLY & CO ELI.
XX
XX Gerlitz BE, Jones BE;
XX
XX WPI; 2001-496919/54.
XX N-PSDB; AAH26364.
XX
XX Novel human protein C derivative for treating, e.g., myocardial
XX infarction, unstable angina, sepsis, thrombotic disorders, acute arterial
XX thrombotic occlusion, and thromboembolism.
XX
XX Claim 4: Page 53-54; 63pp; English.
XX
XX The present sequence is that of a claimed human protein C derivative in
XX which Ser at position 11 of the mature wild-type protein C sequence (see
XX AAH82673) is substituted with Gly, Gln at position 32 with Glu, Asn at
XX position 33 with Asp, Leu at position 194 with Ser, and Thr at position
XX 254 with Ser. It is an example of protein C derivatives of the invention
XX that have at least 2 amino acid substitutions, but which have increased
XX anticoagulant activity and resistance to inactivation by serpins compared
XX with the wild-type protein, while retaining the biological activity of
XX the wild-type protein. A method of producing the derivatives using
XX recombinant DNA methods is claimed. The protein C derivatives are useful
XX for treating coronary syndromes and disease states predisposing to
XX thrombosis (e.g., myocardial infarction and unstable angina), vascular
XX occlusive disorders and hypercoagulable states, sepsis (in combination
XX with bactericidal permeability increasing protein or with tissue factor
XX pathway inhibitor), thrombotic disorders (in combination with an anti-
XX platelet agent or by local delivery through an intracoronary catheter),
XX protein C deficiency, acute arterial thrombotic occlusion,
XX thromboembolism, or stenosis in coronary, cerebral or peripheral arteries
XX or in vascular grafts. Human patients with genetically predisposed
XX prothrombotic disorders may be treated by gene therapy (all claimed)
XX
XX Sequence 419 AA:
XX
XX Query Match 99.1%; Score 2302; DB 4; Length 419;
XX Best Local Similarity 98.8%; Pred. No. 8.2e-142;
XX Matches 414; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

```

```

QY 121 AFGYKLGDDLIQCHPAVAFPCGRPMWEKRSLSLKEDTEDEQDVDBRLIDGMRTRGD 180
DB 121 AFGYKLGDDLIQCHPAVAFPCGRPMWEKRSLSLKEDTEDEQDVDBRLIDGMRTRGD 180
QY 181 SPWQVLLDSSKKGLACAVLIHPSWVLTAAQMBESKLLVRLGVDLRREKWEILDLI 240
DB 181 SPWQVLLDSSKKGLACAVLIHPSWVLTAAQMBESKLLVRLGVDLRREKWEILDLI 240
QY 241 KEVVPVHNTSKSTNDNALHLAOPATLSQTIPTICLPDSGLARELNQAGETLVTCM 300
DB 241 KEVVPVHNTSKSTNDNALHLAOPATLSQTIPTICLPDSGLARELNQAGETLVTCM 300
QY 301 GYHSSEKKAENRTFVLPFIKIPVPHNECEVMSNMVSENNLCAGILGRDACEGDS 360
DB 301 GYHSSEKKAENRTFVLPFIKIPVPHNECEVMSNMVSENNLCAGILGRDACEGDS 360
QY 361 GGPVWASFFHGTFLVGLVSGEGCGLAHNYGYTTSRYLDMTHGIDKAPQKSNAP 419
DB 361 GGPVWASFFHGTFLVGLVSGEGCGLAHNYGYTTSRYLDMTHGIDKAPQKSNAP 419

```

## RESULT 133

AAI56803 standard; protein; 415 AA.

AAI56803;

27-MAR-2000 (first entry)

Truncated human protein C polypeptide.

Protein C; truncated; thrombotic disorder; vascular disorder; stroke;  
hypercoagulable state; myocardial infarction; unstable angina; sepsis;  
adult respiratory distress syndrome; sickle cell anemia; human.

Homo sapiens.

WO963070-A1.

09-DEC-1999.

01-JUN-1999; 99WO-US011969.

01-JUN-1998; 98US-0087585P.

(ELIL ) LILLY & CO ELI.

Huang L, Riggin RM;

WPI; 2000-086975/07.

N-PSDB; AA246750.

Novel polypeptide useful for treating thrombotic and vascular diseases

and hypercoagulation, e.g. stroke.

Claim 2; Page 22-23; 23pp; English.

This represents a human protein C polypeptide having a light chain and a  
truncated heavy chain. The protein can be produced by standard  
recombinant methodologies. The truncated protein C is used to treat a  
wide range of thrombotic or vascular disorders or hypercoagulable states,  
e.g. stroke; myocardial infarction; unstable angina; sepsis; adult  
respiratory distress syndrome; sickle cell anemia etc. The truncated  
protein C retains the activity of full-length protein C but does not  
undergo C-terminal cleavage, of the heavy chain, during activation

Sequence 415 AA:

```

XX
XX Query Match 98.9%; Score 2298; DB 3; Length 415;
XX Best Local Similarity 100.0%; Pred. No. 1.5e-141;
XX Matches 415; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX 1 ANSFLELRHSLSRECEIEICDFEAKEIFQNVDDTLAFMSKVDGQCLVPLEHPCA 60

```

Db 1 ANSPLEERHSLEKCTIEICDPPEAKELFQVNDITAFKSHVDDGQCLVLEHPCA 60  
 QY 61 SLCCGHTCIDIG:IGSPSCDCSSGWEGRFCQREVSFLNCSLDNGCTHYCLEBEVGRRCSG 120  
 Db 61 SLCCGHTCIDIG:IGSPSCDCSSGWEGRFCQREVSFLNCSLDNGCTHYCLEBEVGRRCSG 120  
 QY 121 AAGYTLGPDLLQCHPAVKFPGGRPMKMEKSHKRTPEQDEQVDPPLIDGKTKTRGD 180  
 Db 121 AAGYTLGPDLLQCHPAVKFPGGRPMKMEKSHKRTPEQDEQVDPPLIDGKTKTRGD 180  
 QY 181 SPWQVLLDSSKKLACGAVLTHPSWVLTAAHCDMSKKLAVRAGEYDLRRMEKMLDID 240  
 Db 181 SPWQVLLDSSKKLACGAVLTHPSWVLTAAHCDMSKKLAVRAGEYDLRRMEKMLDID 240  
 QY 241 KEVFPVHPNYSKSTTNDJALHLAQPATLSQITVPICLPDSGLAERELQAQETLVYTW 300  
 Db 241 KEVFPVHPNYSKSTTNDJALHLAQPATLSQITVPICLPDSGLAERELQAQETLVYTW 300  
 QY 301 GYHSREKREKRRRTFVNFKIPVPHNCSFVSNVSNVSNM:CAGIIGDRDACAEGDS 360  
 Db 301 GYHSREKREKRRRTFVNFKIPVPHNCSFVSNVSNVSNM:CAGIIGDRDACAEGDS 360  
 QY 361 GGPWVASFHGTWFLVGLVSMGEGCLAHNGVYTKVSYLDMIGHIRPKKAPOR 415  
 Db 361 GGPWVASFHGTWFLVGLVSMGEGCLAHNGVYTKVSYLDMIGHIRPKKAPOR 415

RESULT 134  
 AAB82677  
 ID AAB82677 standard; protein; 419 AA.  
 XX  
 AC AAB82677;  
 DT 15-OCT-2001 (first entry)  
 XX  
 DE Human protein C derivative (H10Q/S11G/Q32E/N33D/L194S).  
 XX  
 KW Protein C: human; coronary syndrome; thrombosis; angina;  
 KW myocardial infarction; vascular occlusive disorder; hypercoagulation;  
 KW sepsis; protein C deficiency; occlusion; thromboembolism; stenosis;  
 KW antibacterial; immunosuppressive; thrombolytic; cardiant; antitanginal;  
 KW anticoagulant; therapy; mutant; mutein.  
 XX  
 OS Homo sapiens.  
 XX  
 SX Synthetic.  
 FH  
 FH Key Location/qualifiers  
 FT 1..45  
 FT Domain /note= "G1a domain"  
 FT Modified-site 6 /note= "gamma-carboxylated"  
 FT Modified-site 7 /note= "gamma-carboxylated"  
 FT Misc-difference 10 /note= "gamma-carboxylated"  
 FT Misc-difference 11 /note= "His in wild-type protein"  
 FT Misc-difference 14 /note= "Ser in wild-type protein"  
 FT Modified-site 16 /note= "gamma-carboxylated"  
 FT Modified-site 19 /note= "gamma-carboxylated"  
 FT Modified-site 20 /note= "gamma-carboxylated"  
 FT Modified-site 25 /note= "gamma-carboxylated"  
 FT Modified-site 26 /note= "gamma-carboxylated"  
 FT Modified-site 29 /note= "gamma-carboxylated"  
 FT Modified-site 32 /note= "N-glycosylated"  
 FT Misc-difference 32

FT  
 FT Misc-difference 33 /note= "Gln in wild-type protein"  
 FT Disulfide-bond 50..69 /note= "Asn in wild-type protein"  
 FT Disulfide-bond 59..64  
 FT Disulfide-bond 80..89  
 FT Disulfide-bond 98..109  
 FT Disulfide-bond 120..133  
 FT Disulfide-bond 141..277  
 FT Disulfide-bond 156..157  
 FT /note= "cleavage makes a 2-chain inactive precursor (155-amino acid light chain attached via a disulfide bond to a 262-amino acid heavy chain)"  
 FT Peptide 158..169  
 FT /note= "activation peptide; removal activates the 2-chain zymogen"  
 FT Cleavage-site 169..170  
 FT /note= "chromin cleavage site"  
 FT Misc-difference 194  
 FT /note= "Leu in wild-type protein"  
 FT Disulfide-bond 196..212  
 FT Modified-site 248  
 FT /note= "N-glycosylated"  
 FT Modified-site 313  
 FT /note= "N-glycosylated"  
 FT Modified-site 329  
 FT /note= "N-glycosylated"  
 FT Disulfide-bond 331..345  
 FT Disulfide-bond 356..384  
 XX  
 PN W0200157193-A2.  
 XX  
 PD 09-AUG-2001.  
 XX  
 PF 19-JAN-2001; 2001MO-US000020.  
 XX  
 PR 02-FEB-2000; 2000US-0179801P.  
 PR 14-MAR-2000; 2000US-0189197P.  
 XX  
 PA (ELL ) LILLY & CO ELI.  
 XX  
 PA Gerlitz BE, Jones BE;  
 XX  
 DR WPI; 2001-496919/54.  
 DR N-PSDB; AAH26365.  
 XX  
 PT Novel human protein C derivative for treating, e.g., myocardial  
 PT infection, unstable angina, sepsis, thrombotic disorders, acute arterial  
 PT thrombotic occlusion, and thromboembolism.  
 XX  
 PS Claim 5; Page 54-55; 63pp; English.  
 XX  
 CC The present sequence is that of a claimed human protein C derivative in  
 CC which His at position 10 of the mature wild-type protein C sequence (see  
 CC AAB82673) is substituted with Gln, Ser at position 11 with Gly, Gln at  
 CC position 32 with Glu, Asn at position 33 with Asp, and Leu at position  
 CC 194 with Ser. It is an example of protein C derivatives of the invention  
 CC that have at least 2 amino acid substitutions, but which have increased  
 CC anticoagulant activity and resistance to inactivation by serpins compared  
 CC with the wild-type protein, while retaining the biological activity of  
 CC the wild-type protein. A method of producing the derivatives using  
 CC recombinant DNA methods is claimed. The protein C derivatives are useful  
 CC for treating coronary syndromes and disease states predisposing to  
 CC thrombosis (e.g., myocardial infarction and unstable angina), vascular  
 CC occlusive disorders and hypercoagulable states, sepsis (in combination  
 CC with bactericidal permeability increasing protein or with tissue factor  
 CC pathway inhibitor), thrombotic disorders (in combination with an anti-  
 CC platelet agent or by local delivery through an intracoronary catheter),  
 CC protein C deficiency, acute arterial thrombotic occlusion,  
 CC thromboembolism, or stenosis in coronary, cerebral or peripheral arteries  
 CC or in vascular grafts. Human patients with genetically predisposed  
 CC prothrombotic disorders may be treated by gene therapy (all claimed)

SQ Sequence 419 AA;

Query Match 98.8%; Score 2298; DB 4; Length 419;  
 Best Local Similarity 98.8%; Pred. No. 1.5e-141;  
 Matches 414; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 1 ANSFLELRHSLRECEIEICDPEBAKEIFONVDDTLAFMKHYVDGDCVLPLEHPCA 60  
 DB 1 ANSFLELRHSLRECEIEICDPEBAKEIFEDVDDTLAFMKHYVDGDCVLPLEHPCA 60  
 QY 61 SLCCGHTCIGDGSFSCDCRSGMGRFCQREVSFLNCSLDNGGCTHYCLEVGMRCSC 120  
 DB 61 SLCCGHTCIGDGSFSCDCRSGMGRFCQREVSFLNCSLDNGGCTHYCLEVGMRCSC 120  
 QY 121 APGYKGGDILQCHPAVPCGPRPKMEKKRSHLKRDEDEDVDRLLDKMTRRD 180  
 DB 121 APGYKGGDILQCHPAVPCGPRPKMEKKRSHLKRDEDEDVDRLLDKMTRRD 180  
 QY 181 SPQVVLDSKKKLAGAVLIHPSWVLTAAHOMDSKKLVRLGEYDLRMEKWEIDLDI 240  
 DB 181 SPQVVLDSKKKLAGAVLIHPSWVLTAAHOMDSKKLVRLGEYDLRMEKWEIDLDI 240  
 QY 241 KEVFNHNSKSTTDNDIALHLAOPATLSQTIIVICLPDGLARELNQAQGETLVYGM 300  
 DB 241 KEVFNHNSKSTTDNDIALHLAOPATLSQTIIVICLPDGLARELNQAQGETLVYGM 300  
 QY 301 GYHSSREKAKRNPFTVNFITKIPVPHNCEVMSNMVSENNLCAGILGRDQACGDS 360  
 DB 301 GYHSSREKAKRNPFTVNFITKIPVPHNCEVMSNMVSENNLCAGILGRDQACGDS 360  
 QY 361 GGPWVASFHGTWFLVGLVSGEGCLHNYGVYTVKVSRYLDMIGHIRDEKAPQKSNAP 419  
 DB 361 GGPWVASFHGTWFLVGLVSGEGCLHNYGVYTVKVSRYLDMIGHIRDEKAPQKSNAP 419

## RESULT 135

AA08629  
 ID AAE08629 standard; protein, 419 AA.

AC AAE08629;  
 DT 01-NOV-2001 (first entry)  
 DE Human protein C derivative #3.  
 XX

KW Human; protein C derivative; anticoagulation activity; thrombosis;  
 KW serpin inactivation; acute coronary syndrome; myocardial infarction;  
 KW vascular occlusive disorder; hypercoagulable state; angina; sepsis;  
 KW disseminated intravascular coagulation; DIC; burn; transplantation;  
 KW sickle cell disease; viral haemorrhagic fever; protein C deficiency;  
 KW haemolytic uremic syndrome; acute arterial thrombotic occlusion;  
 KW thrombembolism; prothrombotic disorder; gene therapy; thalassemia.

OS Homo sapiens.

PH Key Location/Qualifiers  
 FT Misc-difference 10 /note= "Encoded by CAA"

PN WO00159084-A1.

PD 16-AUG-2001.

PF 02-FEB-2001; 2001WO-US001221.

PR 11-FEB-2000; 2000US-0181948P.

PR 14-MAR-2000; 2000US-0181949P.

PA (ELIL) LILLY &amp; CO ELI.

XX Gerlitz BE, Grinnell BW, Jones BE;  
 XX WPI, 2001-514662/56.  
 DR

DR N-PDB; AAD15227.

XX Protein C derivative for treating acute coronary syndromes, vascular  
 PT thrombotic disorders and sepsis, comprises  
 PT substitutions at specified amino acid positions.  
 XX

PS Claim 5; Page 48-49; 59pp; English.

CC The invention relates to human protein C derivatives and nucleic acid  
 CC molecules encoding such derivatives. These derivatives have increased  
 CC anticoagulation activity, resistance to serpin inactivation and increased  
 CC sensitivity to thrombin activation compared to wild type protein C, and  
 CC retains the biological activity of the wild type human protein C. Protein  
 CC C derivatives are useful in the manufacture of a medicament for the  
 CC treatment of acute coronary syndromes e.g. myocardial infarction and  
 CC unstable angina, and disease states predisposing to thrombosis; vascular  
 CC occlusive disorders and hypercoagulable states e.g. disseminated  
 CC intravascular coagulation (DIC), burns, transplantations, thalassemia,  
 CC sickle cell disease, viral haemorrhagic fever and haemolytic uremic  
 CC syndrome; sepsis in combination with bacterial permeability increasing  
 CC protein; thrombotic disorders in combination with an anti-platelet agent;  
 CC protein C deficiency; acute arterial thrombotic occlusion,  
 CC thrombembolism or stenosis in coronary, cerebral or peripheral arteries  
 CC or in vascular grafts in combination with a thrombolytic agent. Nucleic  
 CC acid molecules of the invention are useful for treating humans with  
 CC genetically predisposed prothrombotic disorders by gene therapy. The  
 CC present sequence is human protein C derivative

SQ Sequence 419 AA;

Query Match 98.8%; Score 2296; DB 4; Length 419;  
 Best Local Similarity 98.8%; Pred. No. 2e-141;  
 Matches 414; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 1 ANSFLELRHSLRECEIEICDPEBAKEIFONVDDTLAFMKHYVDGDCVLPLEHPCA 60  
 DB 1 ANSFLELRHSLRECEIEICDPEBAKEIFEDVDDTLAFMKHYVDGDCVLPLEHPCA 60  
 QY 61 SLCCGHTCIGDGSFSCDCRSGMGRFCQREVSFLNCSLDNGGCTHYCLEVGMRCSC 120  
 DB 61 SLCCGHTCIGDGSFSCDCRSGMGRFCQREVSFLNCSLDNGGCTHYCLEVGMRCSC 120  
 QY 121 APGYKGGDILQCHPAVPCGPRPKMEKKRSHLKRDEDEDVDRLLDKMTRRD 180  
 DB 121 APGYKGGDILQCHPAVPCGPRPKMEKKRSHLKRDEDEDVDRLLDKMTRRD 180  
 QY 181 SPQVVLDSKKKLAGAVLIHPSWVLTAAHOMDSKKLVRLGEYDLRMEKWEIDLDI 240  
 DB 181 SPQVVLDSKKKLAGAVLIHPSWVLTAAHOMDSKKLVRLGEYDLRMEKWEIDLDI 240  
 QY 241 KEVFNHNSKSTTDNDIALHLAOPATLSQTIIVICLPDGLARELNQAQGETLVYGM 300  
 DB 241 KEVFNHNSKSTTDNDIALHLAOPATLSQTIIVICLPDGLARELNQAQGETLVYGM 300  
 QY 301 GYHSSREKAKRNPFTVNFITKIPVPHNCEVMSNMVSENNLCAGILGRDQACGDS 360  
 DB 301 GYHSSREKAKRNPFTVNFITKIPVPHNCEVMSNMVSENNLCAGILGRDQACGDS 360  
 QY 361 GGPWVASFHGTWFLVGLVSGEGCLHNYGVYTVKVSRYLDMIGHIRDEKAPQKSNAP 419  
 DB 361 GGPWVASFHGTWFLVGLVSGEGCLHNYGVYTVKVSRYLDMIGHIRDEKAPQKSNAP 419

## RESULT 136

AA013538  
 ID AAR13538 standard; protein, 460 AA.

AC AAR13538;

DT 25-MAR-2003 (revised)

DT 09-JAN-2003 (revised)

DT 31-OCT-1991 (first entry)

XX

DE Human Protein C zymogen FN.  
 XX HPC mutant; pro drug; intravascular coagulation; zymogen.  
 XX Homo sapiens.  
 OS  
 XX Key Location/Qualifiers  
 FT Region 198..199  
 FT /label= Lys-Arg dipeptide  
 XX  
 XX EP443875-A.  
 XX  
 XX 28-AUG-1991.  
 PD  
 XX 22-FEB-1991; 91EP-00301450.  
 XX  
 XX 23-FEB-1990; 90US-00484133.  
 XX  
 XX (ELIL ) LILLY & CO ELI.  
 XX  
 XX Gerlitz BE, Grimmel BM;  
 XX  
 XX WPI; 1991-25444/35.  
 DR  
 XX  
 XX  
 XX Recombinant mutants of human protein C - having aminoacid changes for  
 PT increased sensitivity to activation by thrombin and thrombin-  
 PT thrombomodulin complex.  
 XX  
 XX Claim 25; Page 37-38; 67pp; English.  
 PS  
 XX  
 XX Protein C Zymogen FN comprises a signal peptide and propeptide of a gamma  
 CC -carboxylated secreted protein, the light chain of HPC, a basic dipeptide  
 CC (i.e. Lys-Arg but can also be Arg-Lys Lys-Arg or Arg-Arg) and amino  
 CC acid residues 200-461 of HPC but with Ile(213) deleted, Asp(209) replaced  
 CC by Phe and Asp(214) replaced by Asn. The zymogen can be activated in vivo  
 CC by thrombin alone (even in the presence of calcium) and is more  
 CC susceptible to activation by thrombin/thrombomodulin than native HPC  
 CC zymogen. Zymogen FN can be administered as a pro drug useful in  
 CC prevention and treatment of diseases involving intravascular coagulation.  
 CC It can also be given to thrombocytopenic patients with invasive cancers.  
 CC with effective and intensive chemotherapy. See AAR1357-40 and AAR13623.  
 CC (Updated on 09-JAN-2003 to add missing OS field.) (Updated on 25-MAR-2003  
 CC to correct PA field.)  
 CC  
 XX  
 XX  
 SQ Sequence 460 AA;  
 Query Match 98.8%; Score 2295.5; DB 2; Length 460;  
 Best Local Similarity 99.3%; Pred. No. 2,4e-141;  
 Matches 416; Conservative 1; Mismatches 1; Indels 1; Gaps 1;

QY 361 GGPVAFSPHGTWLVGLVSGWGGGLAHNYGYTKVSRPLDMHGHTRDKEAPQKSMAP 419  
 |||||  
 Db 402 GGPVAFSPHGTWLVGLVSGWGGGLAHNYGYTKVSRPLDMHGHTRDKEAPQKSMAP 460  
 |||||  
 RESULT 137  
 ID AAB82678  
 XX AAB82678 standard; protein; 419 AA.  
 XX  
 XX AAB82678;  
 AC  
 XX  
 XX 15-OCT-2001 (first entry)  
 DT  
 XX  
 DE Human protein C derivative (H10Q/S11G/Q32E/N33D/L194S/T254S).  
 XX  
 XX Protein C; human; coronary syndrome; thrombosis; angina;  
 XX myocardial infarction; vascular occlusive disorder; hypercoagulation;  
 XX sepsis; protein C deficiency; occlusion; thromboembolism; stenosis;  
 XX antibacterial; immunosuppressive; thrombolytic; cardiac; antiangiinal;  
 XX anticoagulant; therapy; mutant; muten.  
 XX  
 XX Homo sapiens.  
 OS  
 XX Synthetic.  
 XX  
 XX Key Location/Qualifiers  
 FH Domain 1..45  
 FT /note= "Gla domain"  
 FT Modified-site 6  
 FT /note= "gamma-carboxylated"  
 FT Modified-site 7  
 FT /note= "gamma-carboxylated"  
 FT Misc-difference 10  
 FT /note= "His in wild-type protein"  
 FT Misc-difference 11  
 FT /note= "Ser in wild-type protein"  
 FT Modified-site 14  
 FT /note= "gamma-carboxylated"  
 FT Modified-site 16  
 FT /note= "gamma-carboxylated"  
 FT Modified-site 19  
 FT /note= "gamma-carboxylated"  
 FT Modified-site 20  
 FT /note= "gamma-carboxylated"  
 FT Modified-site 25  
 FT /note= "gamma-carboxylated"  
 FT Modified-site 26  
 FT /note= "gamma-carboxylated"  
 FT Modified-site 29  
 FT /note= "N-glycosylated"  
 FT Misc-difference 32  
 FT /note= "Gln in wild-type protein"  
 FT Misc-difference 33  
 FT /note= "Asn in wild-type protein"  
 FT Disulfide-bond 50..69  
 FT /note= "Disulfide-bond 59..64"  
 FT Disulfide-bond 80..89  
 FT /note= "Disulfide-bond 98..109"  
 FT Disulfide-bond 120..133  
 FT /note= "Disulfide-bond 141..277"  
 FT Disulfide-bond 141..277  
 FT /note= "Disulfide-bond 156..157"  
 FT /note= "Cleavage makes a 2-chain inactive precursor (155-  
 FT amino acid light chain attached via a disulfide bond to a  
 FT 262-amino acid heavy chain)"  
 FT /note= "activation peptide; removal activates the 2-chain  
 FT zymogen"  
 FT /note= "159..170"  
 FT /note= "thrombin cleavage site"  
 FT Misc-difference 194  
 FT /note= "Ileu in wild-type protein"  
 FT Disulfide-bond 196..212  
 FT Modified-site 248

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PT /note= "N-glycosylated"
PT MISC-difference 254
PT /note= "Thr in wild-type protein"
PT Modified-site 313
PT /note= "N-glycosylated"
PT Modified-site 329
PT /note= "N-glycosylated"
PT Disulfide-bond 331..345
PT Disulfide-bond 356..384
XX
XX WO200157193-A2.
XX
XX 09-AUG-2001.
XX
XX 19-JAN-2001; 2001WO-US000020.
XX
XX 02-FEB-2000; 2000US-0179801P.
XX 14-MAR-2000; 2000US-0189197P.
XX
XX (ELIL ) LILLY & CO ELI.
XX
XX Gerlitz BE, Jones BE;
XX
XX WPI; 2001-496919/54.
XX
XX Novel human protein C derivative for treating, e.g., myocardial
XX infarction, unstable angina, sepsis, thrombotic disorders, acute arterial
XX thrombotic occlusion, and thromboembolism.
XX
XX Claim 6; Page 56-57; 63pp; English.
XX
XX The present sequence is that of a claimed human protein C derivative in
XX which His at position 10 of the wild-type protein C sequence (see
XX AAB82673) is substituted with Gln. Ser at position 11 with Gly, Gln at
XX position 32 with Glu, Asn at position 33 with Asp, Leu at position 194
XX with Ser, and Thr at position 254 with Ser. It is an example of protein C
XX derivatives of the invention that have at least 2 amino acid
XX substitutions, but which have increased anticoagulant activity and
XX resistance to inactivation by serpin compared with the wild-type
XX protein, while retaining the biological activity of the wild-type
XX protein. A method of producing the derivatives using recombinant DNA
XX methods is claimed. The protein C derivatives are useful for treating
XX coronary syndromes and disease states predisposing to thrombosis (e.g.
XX myocardial infarction and unstable angina), vascular occlusive disorders
XX and hypercoagulable states, sepsis (in combination with bactericidal
XX permeability increasing protein or with tissue factor pathway inhibitor),
XX thrombotic disorders (in combination with an anti-platelet agent or by
XX local delivery through an intracoronary catheter), protein C deficiency,
XX acute arterial thrombotic occlusion, thromboembolism, or stenosis in
XX coronary, cerebral or peripheral arteries or in vascular grafts. Human
XX CC patients with genetically predisposed prothrombotic disorders may be
XX treated by gene therapy (all claimed)
XX
XX Sequence 419 AA;
XX
XX Query Match 98.7%; Score 2294; DB 4; Length 419;
XX Best Local Similarity 98.6%; Pred. No. 2.7e-141;
XX Matches 413; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

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```

DB 181 SPQVVLDSKKKACGAVLIHPSWLTAAHOMESKULVRLGEYDLRRKWEJLDLI 240
QY 241 KEVFAHPYKSTTDNDIALHQAQATLSQTIYPCLPDSGLARELNQAGETLVSM 300
DB 241 KEVFAHPYKSTTDNDIALHQAQATLSQTIYPCLPDSGLARELNQAGETLVSM 300
QY 301 GHSSREKAKRNTFVLANFKIPVPPNECEYMSNMVSENNLCAGTIGROPACGDS 360
DB 301 GHSSREKAKRNTFVLANFKIPVPPNECEYMSNMVSENNLCAGTIGROPACGDS 360
QY 361 GGPMVASFHGTWFLVGLVSWGCGLLNNGVYTKVSRIYLDIHGIDKAPQKSWAP 419
DB 361 GGPMVASFHGTWFLVGLVSWGCGLLNNGVYTKVSRIYLDIHGIDKAPQKSWAP 419

RESULT 138
AAE08627
ID AAE08627 standard; protein; 419 AA.
XX
XX AAE08627;
XX
XX 01-NOV-2001 (first entry)
XX
XX Human protein C derivative #1.
XX
XX Human; protein C derivative; anticoagulation activity; thrombosis;
XX serpin inactivation; acute coronary syndrome; myocardial infarction;
XX vascular occlusive disorder; hypercoagulable state; angina; sepsis;
XX disseminated intravascular coagulation; DIC; burn; transplantation;
XX sickle cell disease; viral haemorrhagic fever; protein C deficiency;
XX haemolytic uremic syndrome; acute arterial thrombotic occlusion;
XX thromboembolism; prothrombotic disorder; gene therapy; thalassemia.
XX
XX Homo sapiens.
XX
XX WO200159084-A1.
XX
XX 16-AUG-2001.
XX
XX 02-FEB-2001; 2001WO-US001221.
XX
XX 11-FEB-2000; 2000US-0181948P.
XX 14-MAR-2000; 2000US-0189199P.
XX
XX (ELIL ) LILLY & CO ELI.
XX
XX Gerlitz BE, Grimmell BW, Jones BE;
XX
XX WPI; 2001-514662/56.
XX N-PSDB; AAD15225.
XX
XX Protein C derivative for treating acute coronary syndromes, vascular
XX occlusive disorders, thrombotic disorders and sepsis, comprises
XX substitutions at specified amino acid positions.
XX
XX Claim 3; Page 46-47; 59pp; English.
XX
XX The invention relates to human protein C derivatives and nucleic acid
XX molecules encoding such derivatives. These derivatives have increased
XX anticoagulation activity, resistance to serpin inactivation and increased
XX sensitivity to thrombin activation compared to wild type protein C, and
XX retains the biological activity of the wild type human protein C. Protein
XX C derivatives are useful in the manufacture of a medicament for the
XX treatment of acute coronary syndromes e.g. myocardial infarction and
XX unstable angina; and disease states predisposing to thrombosis; vascular
XX occlusive disorders and hypercoagulable states e.g. disseminated
XX intravascular coagulation (DIC), burns, transplantations, thalassemia,
XX sickle cell disease, viral haemorrhagic fever and haemolytic uremic
XX syndrome; sepsis in combination with bacterial permeability increasing
XX protein; thrombotic disorders in combination with an anti-platelet agent;
XX protein C deficiency; acute arterial thrombotic occlusion,
XX thromboembolism or stenosis in coronary, cerebral or peripheral arteries
XX or in vascular grafts in combination with a thrombolytic agent. Nucleic

```

CC acid molecules of the invention are useful for treating humans with  
 CC genetically predisposed prothrombotic disorders by gene therapy. The  
 CC present sequence is human protein C derivative  
 XX  
 SQ Sequence 419 AA;

Query Match 98.5%; Score 2290; DB 4; Length 419;  
 Best Local Similarity 98.6%; Pred. No. 4.9e-141;  
 Matches 413; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

QY 1 ANSFLELRHSLSERECIEICDPEEAKEIFONVDDTLAFMSKIVDGDCLVPLEHPCA 63  
 DB 1 ANSFLELRHSLSERECIEICDPEEAKEIFEDVDTLAFMSKIVDGDCLVPLEHPCA 60  
 QY 61 SLCCGHGTCIDIGSFSCDCRSWGEGRCQREVSFLNCSLDNGGCTHYCLEEVMGRSC 120  
 DB 61 SLCCGHGTCIDIGSFSCDCRSWGEGRCQREVSFLNCSLDNGGCTHYCLEEVMGRSC 120  
 QY 121 APGYKLGDDLLQCHPAVKPCGRPMKMEKRSKSLKRDTEDEQDVPRLIKKMTRRGD 180  
 DB 121 APGYKLGDDLLQCHPAVKPCGRPMKMEKRSKSLKRDTEDEQDVPRLIKKMTRRGD 180  
 QY 181 SPWQVLLDSKKKLACGAVLIHPSWVLTAAHCWDESKKLVRLGEYDLRRMEKELDLDI 240  
 DB 181 SPWQVLLDSKKKLACGAVLIHPSWVLTAAHCWDESKKLVRLGEYDLRRMEKELDLDI 240  
 QY 241 KEVFVHPNYSKSTTDNDIALHLAQPATLSQTIYVICLPDSGLARELNQAQGETLVYTW 300  
 DB 241 KEVFVHPNYSKSTTDNDIALHLAQPATLSQTIYVICLPDSGLARELNQAQGETLVYTW 300  
 QY 301 GYHSSREKAKRNRTFVNIKIPVPHNECEVMSNMVSNMLCAGILGRDQACEGDS 360  
 DB 301 GYHSSREKAKRNRTFVNIKIPVPHNECEVMSNMVSNMLCAGILGRDQACEGDS 360  
 QY 361 GGPVVASFHGTWFLVGLVSWGEGCLLHNYGYTKVSRYLDMIGHIRKPAQKSNAP 419  
 DB 361 GGPVVASFHGTWFLVGLVSWGEGCLLHNYGYTKVSRYLDMIGHIRKPAQKSNAP 419

## RESULT 139

AAE08630  
 ID AAE08630 standard; protein; 419 AA.

XX AAE08630;  
 AC  
 DT 01-NOV-2001 (first entry)  
 XX  
 DE Human protein C derivative #4.

XX Human; protein C derivative; anticoagulation activity; thrombosis;  
 KW serpin inactivation; acute coronary syndrome; myocardial infarction;  
 KW vascular occlusive disorder; hypercoagulable state; angina; sepsis;  
 KW disseminated intravascular coagulation; DIC; burn; transplantation;  
 KW sickle cell disease; viral haemorrhagic fever; protein C deficiency;  
 KW haemolytic uremic syndrome; acute arterial thrombotic occlusion;  
 KW thromboembolism; prothrombotic disorder; gene therapy; thalassemia.

OS Homo sapiens.  
 XX  
 PN W0200159084-A1.  
 XX  
 PD 16-AUG-2001.  
 XX  
 PF 02-FEB-2001; 2001WO-US001221.  
 XX  
 PR 11-FEB-2000; 2000US-0181948P.  
 PR 14-MAR-2000; 2000US-0189199P.  
 XX  
 PA (EHL) LILLY & CO ELI.  
 XX  
 PI Gerlitz BE, Grinnell BW, Jones BE;  
 XX  
 DR WPI, 2001-514662/56.

DR N-PSDB; MAD15228.  
 XX  
 XX Protein C derivative for treating acute coronary syndromes, vascular  
 PT occlusive disorders, thrombotic disorders and sepsis, comprises  
 PT substitutions at specified amino acid positions.

Claim 6; Page 50-51; 59pp; English.

The invention relates to human protein C derivatives and nucleic acid molecules encoding such derivatives. These derivatives have increased anticoagulation activity, resistance to serpin inactivation and increased sensitivity to thrombin activation compared to wild type protein C, and retain the biological activity of the wild type human protein C. Protein C derivatives are useful in the manufacture of a medicament for the treatment of acute coronary syndromes e.g. myocardial infarction and unstable angina; and disease states predisposing to thrombosis; vascular occlusive disorders and hypercoagulable states e.g. disseminated intravascular coagulation (DIC), burns, transplantations, thalassemia, sickle cell disease, viral haemorrhagic fever and haemolytic uremic syndrome; sepsis in combination with bacterial permeability increasing protein; thrombotic disorders in combination with an anti-platelet agent; protein C deficiency; acute arterial thrombotic occlusion, thromboembolism or stenosis in coronary, cerebral or peripheral arteries or in vascular grafts in combination with a thrombolytic agent. Nucleic acid molecules of the invention are useful for treating humans with genetically predisposed prothrombotic disorders by gene therapy. The present sequence is human protein C derivative

SQ Sequence 419 AA;

Query Match 98.5%; Score 2288; DB 4; Length 419;  
 Best Local Similarity 98.6%; Pred. No. 6.7e-141;  
 Matches 413; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

QY 1 ANSFLELRHSLSERECIEICDPEEAKEIFONVDDTLAFMSKIVDGDCLVPLEHPCA 60  
 DB 1 ANSFLELRHSLSERECIEICDPEEAKEIFEDVDTLAFMSKIVDGDCLVPLEHPCA 60  
 QY 61 SLCCGHGTCIDIGSFSCDCRSWGEGRCQREVSFLNCSLDNGGCTHYCLEEVMGRSC 120  
 DB 61 SLCCGHGTCIDIGSFSCDCRSWGEGRCQREVSFLNCSLDNGGCTHYCLEEVMGRSC 120  
 QY 121 APGYKLGDDLLQCHPAVKPCGRPMKMEKRSKSLKRDTEDEQDVPRLIKKMTRRGD 180  
 DB 121 APGYKLGDDLLQCHPAVKPCGRPMKMEKRSKSLKRDTEDEQDVPRLIKKMTRRGD 180  
 QY 181 SPWQVLLDSKKKLACGAVLIHPSWVLTAAHCWDESKKLVRLGEYDLRRMEKELDLDI 240  
 DB 181 SPWQVLLDSKKKLACGAVLIHPSWVLTAAHCWDESKKLVRLGEYDLRRMEKELDLDI 240  
 QY 241 KEVFVHPNYSKSTTDNDIALHLAQPATLSQTIYVICLPDSGLARELNQAQGETLVYTW 300  
 DB 241 KEVFVHPNYSKSTTDNDIALHLAQPATLSQTIYVICLPDSGLARELNQAQGETLVYTW 300  
 QY 301 GYHSSREKAKRNRTFVNIKIPVPHNECEVMSNMVSNMLCAGILGRDQACEGDS 360  
 DB 301 GYHSSREKAKRNRTFVNIKIPVPHNECEVMSNMVSNMLCAGILGRDQACEGDS 360  
 QY 361 GGPVVASFHGTWFLVGLVSWGEGCLLHNYGYTKVSRYLDMIGHIRKPAQKSNAP 419  
 DB 361 GGPVVASFHGTWFLVGLVSWGEGCLLHNYGYTKVSRYLDMIGHIRKPAQKSNAP 419

## RESULT 140

AAE08628  
 ID AAE08628 standard; protein; 419 AA.

XX AAE08628;  
 AC  
 DT 01-NOV-2001 (first entry)  
 XX  
 DE Human protein C derivative #2.

Human; protein C derivative; anticoagulation activity; thrombosis;  
 KM sepsin inactivation; acute coronary syndrome; myocardial infarction;  
 KM vascular occlusive disorder; hypercoagulable state; angina; sepsis;  
 KM disseminated intravascular coagulation; DIC; burn; transplantation;  
 KM sickle cell disease; viral haemorrhagic fever; protein C deficiency;  
 KM haemolytic uremic syndrome; acute arterial thrombotic occlusion;  
 KM thromboembolism; prothrombotic disorder; gene therapy; thalassaemia.  
 XX  
 OS Homo sapiens.  
 XX  
 PN WO200159084-A1.  
 XX  
 PD 16-AUG-2001.  
 XX  
 PF 02-FEB-2001; 2001MO-US001221.  
 XX  
 PR 11-FEB-2000; 2000US-0181948P.  
 XX  
 PR 14-MAR-2000; 2000US-0189199P.  
 XX  
 PA (ELIL ) LILLY & CO ELI.  
 XX  
 PI Gerlitz BE, Grinnell BW, Jones BE;  
 XX  
 DR WPI; 2001-514662/56.  
 XX  
 DR N-BEDB; AAD15226.  
 XX  
 PT Protein C derivative for treating acute coronary syndromes, vascular  
 PT occlusive disorders, thrombotic disorders and sepsis, comprises  
 PT substitutions at specified amino acid positions.  
 XX  
 PS Claim 4; Page 47-48; 59pp; English.  
 XX  
 CC The invention relates to human protein C derivatives and nucleic acid  
 CC molecules encoding such derivatives. These derivatives have increased  
 CC anticoagulation activity, resistance to sepsin inactivation and increased  
 CC sensitivity to thrombin activation compared to wild type protein C, and  
 CC retains the biological activity of the wild type human protein C. Protein  
 CC C derivatives are useful in the manufacture of a medicament for the  
 CC treatment of acute coronary syndromes e.g. myocardial infarction and  
 CC unstable angina; and disease states predisposing to thrombosis; vascular  
 CC occlusive disorders and hypercoagulable states e.g. disseminated  
 CC intravascular coagulation (DIC), burns, transplantations, thalassaemia,  
 CC sickle cell disease, viral haemorrhagic fever and haemolytic uremic  
 CC syndrome; sepsis in combination with bacterial permeability increasing  
 CC protein; thrombotic disorders in combination with an anti-platelet agent;  
 CC protein C deficiency; acute arterial thrombotic occlusion.  
 CC thromboembolism or stenosis in coronary, cerebral or peripheral arteries  
 CC or in vascular grafts in combination with a thrombolytic agent. Nucleic  
 CC acid molecules of the invention are useful for treating humans with  
 CC genetically predisposed prothrombotic disorders by gene therapy. The  
 CC present sequence is human protein C derivative  
 XX  
 SQ Sequence 419 AA.  
 Query Match 98.4%; Score 2286; DB 4; Length 419;  
 Best Local Similarity 98.3%; Pred. No. 9e-141;  
 Matches 412; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

QY 241 KEVFVHPNYSKSTTDNDIALHIAQPATLSQTIPTCLPDSGLARELMOAGSETLVTM 300  
 ||||| :  
 DB 241 KEVFHPNYSKSTTDNDIALHIAQPATLSQTIPTCLPDSGLARELMOAGSETLVTM 300  
 QY 301 GYHSSSEKAKRNRTFVIANFIKIPVPHNECEVSNMVSNNLCAGILGRDACHGS 360  
 DB 301 GYHSSSEKAKRNRTFVIANFIKIPVPHNECEVSNMVSNNLCAGILGRDACHGS 360  
 QY 361 GGPNVAFHFGTWFLVGLVSWGEGCGILHNYGVYTKVSRDYDMTHGIRDKAPQKSNAP 419  
 DB 361 GGPNVAFHFGTWFLVGLVSWGEGCGILHNYGVYTKVSRDYDMTHGIRDKAPQKSNAP 419

## RESULT 141

ADCC40012  
 ID ADCC40012 standard; protein; 410 AA.

AC ADCC40012;

DT 18-DEC-2003 (first entry)

DE Human activated protein C-related protein #1.

XX human; activated protein C; aPC; thrombotic disorder;

KM intravascular coagulation; thrombotic stroke; deep vein thrombosis;

KM pulmonary embolism; peripheral arterial thrombosis;

KM acute myocardial infarction; retina thrombosis.

XX Homo sapiens.

XX WO2003075834-A2.

XX 18-SEP-2003.

XX 27-FEB-2003; 2003MO-US005046.

XX 08-MAR-2002; 2002US-0363364P.

XX (ELIL ) LILLY & CO ELI.

XX Gopalrathnam G, Huang L, Riggin RM, Shetiga TA;

XX WPI; 2003-722308/68.

XX Pharmaceutical composition comprising activated protein C and a chelating

PT agent useful for treating thrombotic disorders such as stroke, deep vein

PT thrombosis, pulmonary embolism and myocardial infarction.

PS Disclosure; SEQ ID NO 1; 29pp; English.

XX The invention comprises a pharmaceutical composition containing activated

CC protein C (aPC), a chelating agent and optionally a diluent. The

CC composition of the invention is useful for treating thrombotic disorders,

CC such as: intravascular coagulation, thrombotic stroke, deep vein

CC thrombosis, pulmonary embolism, peripheral arterial thrombosis, acute

CC myocardial infarction and retina thrombosis. The present amino acid

CC sequence represents a human protein that was used in the exemplification

CC of the invention.

XX  
 SQ Sequence 410 AA;  
 Query Match 98.1%; Score 2281; DB 7; Length 410;  
 Best Local Similarity 100.0%; Pred. No. 1.9e-140;  
 Matches 410; Conservative 0; Mismatches 0; Indels 0; Gaps 0;



QY 130 LIQHPAVKFCGGRPKMKRSHLKRDEDOEDVDPRLLDGKMTRRGDSFMOVYLLD 189  
 DB 121 LIQHPAVKFCGGRPKMKRSHLKRDEDOEDVDPRLLDGKMTRRGDSFMOVYLLD 180  
 QY 190 SKKLIACGAVLIHPSWVLTAAHCMDSESKLLVRLGEYDLRRMEKMLDDIXEVFVHPNY 249  
 DB 181 SKKLIACGAVLIHPSWVLTAAHCMDSESKLLVRLGEYDLRRMEKMLDDIXEVFVHPNY 240  
 QY 250 SKSTTDNDIALHLAQPATLSQTTVPICLPDSGLAEELNQAQGETLVYMGYHSREKE 309  
 DB 241 SKSTTDNDIALHLAQPATLSQTTVPICLPDSGLAEELNQAQGETLVYMGYHSREKE 300  
 QY 310 ARKNTFVNLFIKIPVPHNECSEVMSNMVSENMICAGILGDRDACEGDSGPMVASFH 369  
 DB 301 ARKNTFVNLFIKIPVPHNECSEVMSNMVSENMICAGILGDRDACEGDSGPMVASFH 360  
 QY 370 TWFLVGLVSWGCGGLHNYGYTVKVSRYLDMTHGHIRDKAPQKSNAP 419  
 DB 361 TWFLVGLVSWGCGGLHNYGYTVKVSRYLDMTHGHIRDKAPQKSNAP 410

## RESULT 142

ADCC40013  
 ID ADC40013 standard; protein; 409 AA.

AC ADC40013;

DT 18-DEC-2003 (first entry)

DE Human activated protein C-related protein #2.

KW human; activated protein C; APC; thrombotic disorder;  
 intravascular coagulation; thrombotic stroke; deep vein thrombosis;

KW pulmonary embolism; peripheral arterial thrombosis;  
 acute myocardial infarction; retina thrombosis.

OS Homo sapiens.

PN WO2003075834-A2.

PD 18-SEP-2003.

PF 27-FEB-2003; 2003WO-US005046.

PR 08-MAR-2002; 2002US-0363364P.

PA (BLIL ) LILLY & CO ELI.

PI Gopaliratham G, Huang L, Riggin RM, Sheliga TA;

DR WPI; 2003-722308/68.

PT Pharmaceutical composition comprising activated protein C and a chelating  
 agent useful for treating thrombotic disorders such as stroke, deep vein

PT thrombosis, pulmonary embolism and myocardial infarction.

PS Disclosure; SEQ ID NO 2; 29pp; English.

CC The invention comprises a pharmaceutical composition containing activated  
 protein C (APC), a chelating agent and optionally a diluent. The  
 CC composition of the invention is useful for treating thrombotic disorders,  
 CC such as: intravascular coagulation, thrombotic stroke, deep vein  
 CC thrombosis, pulmonary embolism, peripheral arterial thrombosis, acute  
 CC myocardial infarction and retina thrombosis. The present amino acid  
 CC sequence represents a human protein that was used in the exemplification  
 CC of the invention.

SQ Sequence 409 AA;

Query Match 97.7%; Score 2270; DB 7; Length 409;  
 Best local similarity 99.8%; Pred. No. 9,66-140;  
 Matches 408; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 11 SSIERECIEEICDPEBAKEIFQNVDDTLAFWSKRVNDGQCLVLEHPKASLCCGHGTCTI 70  
 DB 1 SSIERECIEEICDPEBAKEIFQNVDDTLAFWSKRVNDGQCLVLEHPKASLCCGHGTCTI 60  
 QY 71 DGISFSCDCRSWEGRFQREVSFLNCSLDNGCTTHYCLEBVGRRSCAPGYKLGDL 130  
 DB 61 DGISFSCDCRSWEGRFQREVSFLNCSLDNGCTTHYCLEBVGRRSCAPGYKLGDL 120  
 QY 131 LQCHPAVKEPCGRPKMKRSHLKRDEDOEDVDPRLLDGKMTRRGDSFMOVYLLD 190  
 DB 121 LQCHPAVKEPCGRPKMKRSHLKRDEDOEDVDPRLLDGKMTRRGDSFMOVYLLD 180  
 QY 191 KKLACGAVLIHPSWVLTAAHCMDSESKLLVRLGEYDLRRMEKMLDDIXEVFVHPNY 250  
 DB 181 KKLACGAVLIHPSWVLTAAHCMDSESKLLVRLGEYDLRRMEKMLDDIXEVFVHPNY 240  
 QY 251 KSTTDNDIALHLAQPATLSQTTVPICLPDSGLAEELNQAQGETLVYMGYHSREKE 310  
 DB 241 KSTTDNDIALHLAQPATLSQTTVPICLPDSGLAEELNQAQGETLVYMGYHSREKE 300  
 QY 311 KKRRTFVNLFIKIPVPHNECSEVMSNMVSENMICAGILGDRDACEGDSGPMVASFH 370  
 DB 301 KKRRTFVNLFIKIPVPHNECSEVMSNMVSENMICAGILGDRDACEGDSGPMVASFH 360  
 QY 371 TWFLVGLVSWGCGGLHNYGYTVKVSRYLDMTHGHIRDKAPQKSNAP 419  
 DB 361 TWFLVGLVSWGCGGLHNYGYTVKVSRYLDMTHGHIRDKAPQKSNAP 409

## RESULT 143

AAR13623  
 ID AAR13623 standard; protein; 460 AA.

AC AAR13623;

DT 25-MAR-2003 (revised)

DT 09-JAN-2003 (revised)

DT 31-OCT-1991 (first entry)

DE Human Protein C zymogen SC.

KW HPC mutant; pro drug; intravascular coagulation; zymogen.

OS Homo sapiens.

FT Key Location/Qualifiers  
 Region 198..199  
 /label= Lys-Arg dipeptide

PN BP443875-A.

PD 28-AUG-1991.

PF 22-FEB-1991; 91BP-00301450.

PR 23-FEB-1990; 90US-00484133.

PA (BLIL ) LILLY & CO ELI.

PI Gerlitz BE, Grinnell BW;

DR WPI; 1991-254444/35.

PT Recombinant mutants of human protein C - having aminoacid changes for  
 increased sensitivity to activation by thrombin and thrombin-

PT thrombomodulin complex.

PS Disclosure; Page 12 and Table 1; 67pp; English.

CC Protein C Zymogen SC comprises a signal peptide and propeptide of a gamma  
 CC -carboxylated secreted protein, the light chain of HPC, a basic dipeptide  
 CC (i.e. Lys-Arg, but can also be Arg-Lys, Lys-Lys or Arg-Arg) and amino

CC acid residues 200-461 of HPC but with ile(213) deleted and with Asp(203),  
 CC Glu(204), Asp(206), Val(208), Asp(209), Leu(212) and Asp(214).  
 CC replaced by Leu, His, Lys, Leu, Thr, Tyr, Thr and Asn, respectively. The  
 CC zymogen can be activated in vivo by thrombin alone (even in the presence  
 CC of calcium) and is more susceptible to activation by  
 CC thrombin/thrombomodulin than native HPC zymogen. Zymogen SC can be  
 CC administered as a pro drug useful in prevention and treatment of diseases  
 CC involving intravascular coagulation. It can also be given to  
 CC thrombocytopenic patients with invasive cancers with effective and  
 CC intensive chemotherapy. See also AAR1357-40. (Updated on 09-JAN-2003 to  
 CC add missing OS field.) (Updated on 25-MAR-2003 to correct PA field.)  
 CC XX  
 SQ Sequence 460 AA;

Query Match 97.1%; Score 2257.5; DB 2; Length 460;  
 Best Local Similarity 97.8%; Pred. No. 7e-139; Indels 1; Gaps 1;  
 Matches 410; Conservative 2; Mismatches 6;

QY 1 ANSFLELRHSLSRECEIEICDFEBAKEIFQNVDTLAFMSKHYVDGDCVLPLEHPCA 60  
 Db 43 ANSFLELRHSLSRECEIEICDFEBAKEIFQNVDTLAFMSKHYVDGDCVLPLEHPCA 102  
 QY 61 SLCCGHTCTIDIGSFSCDCRSGBEGRFCQREVSFLNCSLDNGGCTHYCLEBYGMRRCSC 120  
 Db 103 SLCCGHTCTIDIGSFSCDCRSGBEGRFCQREVSFLNCSLDNGGCTHYCLEBYGMRRCSC 162  
 QY 121 APGYKLGDDLLQCHPAVYPCPGPMKMEKRSLSKRTDEDDOVDPLIDGKMTRRGD 180  
 Db 163 APGYKLGDDLLQCHPAVYPCPGPMKMEKRSLSKRTDEDDOVDPLIDGKMTRRGD 221  
 QY 181 SPQWVLLDSKKKLACGAVLIHPSWVLTAAHCHDSKLLVRLGEYDLRMEKMLDDI 240  
 Db 222 SPQWVLLDSKKKLACGAVLIHPSWVLTAAHCHDSKLLVRLGEYDLRMEKMLDDI 281  
 QY 241 KEVFVHPNYSKSTTNDIALHLAQPATLSQTIIVPICLPDSGLAEELINQAGETLVYTW 300  
 Db 282 KEVFVHPNYSKSTTNDIALHLAQPATLSQTIIVPICLPDSGLAEELINQAGETLVYTW 341  
 QY 301 GYHSREKAKRNRTFVNFIKIPVPHNECEVMSNMVSENNLCAGILGRQDACEGDS 360  
 Db 342 GYHSREKAKRNRTFVNFIKIPVPHNECEVMSNMVSENNLCAGILGRQDACEGDS 401  
 QY 361 GGPWVASFHGTWFLVGLVSWGEGGLAHNYGYTVKSRYLDMTHGIRDKAPQKSWAP 419  
 Db 402 GGPWVASFHGTWFLVGLVSWGEGGLAHNYGYTVKSRYLDMTHGIRDKAPQKSWAP 460

RESULT 144  
 AAP93714  
 ID AAP93714 standard; protein; 461 AA.  
 AC AAP93714;  
 XX  
 DT 25-MAR-2003 (revised)  
 DT 04-JUN-1990 (first entry)  
 XX  
 DE Hybrid protein of protein-C and Factor-X.  
 XX  
 KW Fusion protein; anticoagulant; protein-C; Factor-X; Gla domain; ss.  
 XX  
 OS Homo sapiens.  
 XX  
 FH Key Location/Qualifiers  
 FT Peptide 1..40  
 FT /label= signal\_peptide  
 XX  
 XX EP296413-A.  
 XX  
 XX 28-DEC-1988.  
 XX  
 XX 09-JUN-1988; 88EP-00109186.  
 XX  
 XX 12-JUN-1987; 87UP-00145293.

PR 09-JUN-1988; 88UP-00140558.  
 XX  
 XX (FARH) HOECHST JAPAN LTD.  
 XX  
 XX Iwasaaki W, Takahashi M, Hashimoto T;  
 XX  
 XX WPI; 1989-000910/01.  
 DR N-PSDB; AAN93063.  
 XX  
 PT Hybrid protein of protein C with replaced Gla domain - using human  
 PT vitamin-K dependent proteins, e.g. Factor X, to give improved  
 PT anticoagulation activity.  
 PS  
 XX Disclosure; Page 16-19; 23pp; English.

The sequence is that of a fusion protein in which the Gla domain of  
 CC protein is replaced with that of Factor X. The novel protein has a more  
 CC potent anticoagulation activity than protein-C and is expected to have  
 CC competitive inhibitory activity against medadone dependent blood  
 CC coagulation proteins. It also has neutralization activity against  
 CC plasminogen activation inhibitor, and inactivates Factor-Va or Factor-  
 CC VIIa. (Updated on 25-MAR-2003 to correct PR field.) (Updated on 25-MAR-  
 CC 2003 to correct PR field.)  
 CC XX  
 SQ Sequence 461 AA;

Query Match 96.6%; Score 2244; DB 1; Length 461;  
 Best Local Similarity 95.7%; Pred. No. 5.3e-138;  
 Matches 401; Conservative 9; Mismatches 9; Indels 0; Gaps 0;

QY 1 ANSFLELRHSLSRECEIEICDFEBAKEIFQNVDTLAFMSKHYVDGDCVLPLEHPCA 60  
 Db 41 ANSFLELRHSLSRECEIEICDFEBAKEIFQNVDTLAFMSKHYVDGDCVLPLEHPCA 100  
 QY 61 SLCCGHTCTIDIGSFSCDCRSGBEGRFCQREVSFLNCSLDNGGCTHYCLEBYGMRRCSC 120  
 Db 101 SLCCGHTCTIDIGSFSCDCRSGBEGRFCQREVSFLNCSLDNGGCTHYCLEBYGMRRCSC 160  
 QY 121 APGYKLGDDLLQCHPAVYPCPGPMKMEKRSLSKRTDEDDOVDPLIDGKMTRRGD 180  
 Db 161 APGYKLGDDLLQCHPAVYPCPGPMKMEKRSLSKRTDEDDOVDPLIDGKMTRRGD 220  
 QY 181 SPQWVLLDSKKKLACGAVLIHPSWVLTAAHCHDSKLLVRLGEYDLRMEKMLDDI 240  
 Db 221 SPQWVLLDSKKKLACGAVLIHPSWVLTAAHCHDSKLLVRLGEYDLRMEKMLDDI 280  
 QY 241 KEVFVHPNYSKSTTNDIALHLAQPATLSQTIIVPICLPDSGLAEELINQAGETLVYTW 300  
 Db 281 KEVFVHPNYSKSTTNDIALHLAQPATLSQTIIVPICLPDSGLAEELINQAGETLVYTW 340  
 QY 301 GYHSREKAKRNRTFVNFIKIPVPHNECEVMSNMVSENNLCAGILGRQDACEGDS 360  
 Db 341 GYHSREKAKRNRTFVNFIKIPVPHNECEVMSNMVSENNLCAGILGRQDACEGDS 400  
 QY 361 GGPWVASFHGTWFLVGLVSWGEGGLAHNYGYTVKSRYLDMTHGIRDKAPQKSWAP 419  
 Db 401 GGPWVASFHGTWFLVGLVSWGEGGLAHNYGYTVKSRYLDMTHGIRDKAPQKSWAP 459

RESULT 145  
 AAW72753  
 ID AAW72753 standard; protein; 419 AA.  
 AC AAW72753;  
 XX  
 DT 08-JAN-1999 (first entry)  
 XX  
 DE Primary structure of activated human protein C.  
 XX  
 KW Human; activated protein C; primary structure; autodegradation;  
 KW purification; processing; intravascular coagulation; thrombotic stroke;  
 KW deep vein thrombosis; pulmonary embolism; peripheral arterial thrombosis;  
 KW emboli; heart; peripheral artery; acute myocardial infarction;  
 KW

KW disseminated intravascular coagulation; acute precapillary occlusion;  
 KM postcapillary occlusion; transplantation; retina thrombosis.  
 OS Homo sapiens.  
 XX  
 FH Key Location/Qualifiers  
 FH Disulfide-bond 17..22  
 FT Disulfide-bond 50..69  
 FT Disulfide-bond 80..89  
 FT Disulfide-bond 98..109  
 FT Disulfide-bond 105..118  
 FT Disulfide-bond 120..133  
 FT Disulfide-bond 141..277  
 FT Misc-difference 153  
 FT Misc-difference 154 /note= "unspecified"  
 FT Misc-difference 155 /note= "unspecified"  
 FT Misc-difference 156 /note= "unspecified"  
 FT Misc-difference 157 /note= "unspecified"  
 FT Misc-difference 158 /note= "unspecified"  
 FT Misc-difference 159 /note= "unspecified"  
 FT Misc-difference 160 /note= "unspecified"  
 FT Misc-difference 161 /note= "unspecified"  
 FT Misc-difference 162 /note= "unspecified"  
 FT Misc-difference 163 /note= "unspecified"  
 FT Misc-difference 164 /note= "unspecified"  
 FT Misc-difference 165 /note= "unspecified"  
 FT Misc-difference 166 /note= "unspecified"  
 FT Misc-difference 167 /note= "unspecified"  
 FT Misc-difference 168 /note= "unspecified"  
 FT Misc-difference 169 /note= "unspecified"  
 FT Disulfide-bond 196..212  
 FT Disulfide-bond 331..345  
 FT Disulfide-bond 356..384  
 XX  
 PN EP875563-A2.  
 XX  
 PD 04-NOV-1998.  
 XX  
 PF 28-APR-1998; 98BP-00303312.  
 XX  
 PR 28-APR-1997; 97US-0045255P.  
 XX  
 PA (EHLI ) LILLY & CO EHLI.  
 XX  
 PI Carlson AD, Shelliga TA, Baker JC, Huang L;  
 XX  
 DR WPI; 1998-559430/48.  
 XX  
 PT Improved processing and purification of activated protein C - comprises  
 PT processing aqueous solution at specified ionic strength and pH to reduce  
 PT the amount of autodegradation products.  
 XX  
 PS Disclosure; Fig 1; 7pp; English.  
 XX  
 CC An improved method has been developed of processing an aqueous solution  
 CC of activated protein C (apc). The method comprises conducting the

CC processing at an ionic strength greater than 150 mM and a pH of 5.5-6.3.  
 CC The present sequence represents the primary structure of activated human  
 CC protein C, used to assist in illustrating the autodegradation pathways  
 CC described in the present invention. The apc is used for treating a  
 CC variety of acquired disease states involving intravascular coagulation  
 CC e.g. thrombotic stroke, deep vein thrombosis, pulmonary embolism,  
 CC peripheral arterial thrombosis, emboli originating from the heart or  
 CC peripheral arteries, acute myocardial infarction, disseminated  
 CC intravascular coagulation and acute pre- or postcapillary occlusions  
 CC including transplantations or retina thrombosis. The process minimises  
 CC the percentage of autodegradation products forming at most 10%,  
 CC preferably below 5% of des(1-9) apc and des(1-10) apc by weight, to  
 CC achieve a more potent, higher purity apc pharmaceutical preparation  
 XX  
 SQ Sequence 419 AA;  
 Query Match 95.1%; Score 2210; DB 2; Length 419;  
 Best Local Similarity 95.7%; Pred. No. 7-be-136;  
 Matches 401; Conservative 0; Mismatches 18; Indels 0; Gaps 0;  
 QY 1 ANSFLEIRHSLSRECEIEICDPEAKKIFQNVDDTLAFMSKVDGQCLVPLRHPCA 60  
 Db 1 ANSFLEIRHSLSRECEIEICDPEAKEIFQNVDDTLAFMSKVDGQCLVPLRHPCA 60  
 QY 61 SLCCGHGTCIDIGISFSCDREGMRFCQREVSFLNCSLDNGCTYCLIEVGMRCSC 120  
 Db 61 SLCCGHGTCIDIGISFSCDREGMRFCQREVSFLNCSLDNGCTYCLIEVGMRCSC 120  
 QY 121 APGYKLGDDLIQCHPAKVPQGRPMKREKRSKLRDTEDEQDVPRLLIDGKMTREGD 180  
 Db 121 APGYKLGDDLIQCHPAKVPQGRPMKREKRSKLRDTEDEQDVPRLLIDGKMTREGD 180  
 QY 181 SPQVVLDSKKKLACGAVLIHPSWLTFAHCDMSKCLVLAGYDIRMEKELDLDI 240  
 Db 181 SPQVVLDSKKKLACGAVLIHPSWLTFAHCDMSKCLVLAGYDIRMEKELDLDI 240  
 QY 241 KEVFPVHPNYSKSTTDNDIALHLAQATLSQTYPICTPDGSLARELNQAGETLVGM 300  
 Db 241 KEVFPVHPNYSKSTTDNDIALHLAQATLSQTYPICTPDGSLARELNQAGETLVGM 300  
 QY 301 GHSSREKAKNRFTYANFIKIPVPHNECEVSMVMVSNMLCAGILGRDPAECGS 360  
 Db 301 GHSSREKAKNRFTYANFIKIPVPHNECEVSMVMVSNMLCAGILGRDPAECGS 360  
 QY 361 GGPVVASFHGTWFIYGLVSWGEGCLAHNYGYTKYSRYLDWIHGHIDKAPQKSNAP 419  
 Db 361 GGPVVASFHGTWFIYGLVSWGEGCLAHNYGYTKYSRYLDWIHGHIDKAPQKSNAP 419  
 RESULT 146  
 AARL3083  
 ID AARL3083 standard; protein, 509 AA.  
 XX  
 AC AARL3083;  
 XX  
 DT 25-MAR-2003 (revised)  
 DT 30-SEP-1991 (first entry)  
 XX  
 DE PAP-I-protein C fusion construct.  
 XX  
 KW Phospholipid; binding protein; lipocortin; domain; vitamin K; PAP;  
 KW gla-domain; VKDP.  
 XX  
 OS Homo sapiens.  
 XX  
 FH Key Location/Qualifiers  
 FH Protein 1..136  
 FT /label= PAP-I  
 FT /note= "amino acids 1-136"  
 FT 137..509  
 FT /label= protein\_C  
 FT /note= "amino acids 46-136"  
 XX

PN W09109953-A.  
 XX 11-JUL-1991.  
 XX  
 XX 29-DEC-1989; 89US-00459082.  
 XX  
 XX 29-DEC-1989; 89US-00459082.  
 XX  
 PA (ZYMO ) ZYMOGENETICS INC.  
 XX  
 PI Foster DC;  
 XX  
 DR WPI; 1991-222905/30.  
 DR N-PSDB; AAQ12680.  
 XX  
 XX Recombinant prodn. of hybrid phospholipid-binding proteins - comprising  
 PT lipocortin phospholipid-binding domain and vitaminK-dependent protein.  
 XX  
 PS Claim 20; Page 41; 57pp; English.  
 CC The fusion was constructed using site-directed mutagenesis to fuse PAP-I  
 CC encoding amino acid 1-136 with a protein C DNA sequence at the codon for  
 CC amino acid 46. A plasmid contg. this construct was transfected into BHK  
 CC cells which were then cultured to produce PAP-I-protein C fusions which  
 CC were activated to a form fully active in both amidolytic and  
 CC anticoagulant assays. See also AAQ12678-81. (Updated on 25-MAR-2003 to  
 CC correct RA field.)  
 CC  
 SQ Sequence 509 AA;  
 XX  
 Query Match 89.7%; Score 2085; DB 2; Length 509;  
 Best Local Similarity 91.4%; Pred. No. 1,3e-127;  
 Matches 383; Conservative 9; Mismatches 17; Indels 10; Gaps 3;  
 QY 7 ELRHS-----SLRECEIEELCDF--BEAKELFONVDDTLAFWSKRVDDQCLVLPLEHPC 59  
 DB 94 ELKHALKAGTNEKXLTETILASRTPEELAKIKQYEBE---YSSLDGGQCLVLPLEHPC 150  
 QY 60 ASLCCGHTCTDGTGTSFCDSRGSGMGRFCQREVSPFNGSLDNGGCTHYCLEEYGMRRCS 119  
 DB 151 ASLCCGHTCTDGTGTSFCDSRGSGMGRFCQREVSPFNGSLDNGGCTHYCLEEYGMRRCS 210  
 QY 120 CAPGYKLGGDLQCHPAVKFPCGRPMKMEKKRSHLRDTEDEQDVDPRLIDGMTRRG 179  
 DB 211 CAPGYKLGGDLQCHPAVKFPCGRPMKMEKKRSHLRDTEDEQDVDPRLIDGMTRRG 270  
 QY 180 DSPWQVVLDSKKKLACGAVLIHPSWVLTAAHCDDESKKLVLGEGYDLRRMEKMEILD 239  
 DB 271 DSPWQVVLDSKKKLACGAVLIHPSWVLTAAHCDDESKKLVLGEGYDLRRMEKMEILD 330  
 QY 240 IKEYFVHPNYSKSTNDNDIALHLAQPATLSQTIPTICLPDSGLARELNQAGETLVYWG 299  
 DB 331 IKEYFVHPNYSKSTNDNDIALHLAQPATLSQTIPTICLPDSGLARELNQAGETLVYWG 390  
 QY 300 WGYSSSEKAKRNTFVLANFIKIPVPHNECEVSNMVSNNMLCAGILGRDACAEGD 359  
 DB 391 WGYSSSEKAKRNTFVLANFIKIPVPHNECEVSNMVSNNMLCAGILGRDACAEGD 450  
 QY 360 SGGPWVASFHGTWFLVGLVSWGSGCGLHNHYGVYTKVSRYLDMTHGIRDXEAPQKSWA 418  
 DB 451 SGGPWVASFHGTWFLVGLVSWGSGCGLHNHYGVYTKVSRYLDMTHGIRDXEAPQKSWA 509  
 RESULT 147  
 AA49558  
 ID AA49558 standard; protein; 356 AA.  
 AC AA49558;  
 XX  
 XX 13-JAN-2000 (first entry)  
 XX Human protein C protein sequence.  
 XX

KW Human; coding sequence polymorphism; vascular pathology gene;  
 KM polymorphic site; phenotype correlation; forensic; paternity testing;  
 KM medicine; genetic analysis; vascular disease.  
 XX  
 XX Homo sapiens.  
 OS  
 XX W09950454-A2.  
 PN  
 XX 07-OCT-1999.  
 XX  
 XX 26-MAR-1999; 99WO-US006473.  
 PF  
 XX 01-APR-1998; 98US-00054272.  
 XX  
 XX (WHEED ) WHITEHEAD INST BIOMEDICAL RES.  
 PA Lander ES, Daley GQ, Cargill M, Ireland JS, Rozen SG;  
 DR WPI; 1999-620066/53.  
 DR N-PSDB; AA232167.  
 XX  
 XX Determination of polymorphisms in genes, especially those identifying  
 PT predisposition to vascular disease.  
 XX  
 PS Disclosure; Fig 11; 134pp; English.  
 CC AA232159 to AA232194 represent reference alleles for specifically claimed  
 CC nucleic acid sequences from the present invention which comprises  
 CC polymorphic sites as given in a table in the specification, selected from  
 CC 92 single nucleotide polymorphisms in which the nucleotide at the  
 CC polymorphic site is different from a nucleotide at the same site in a  
 CC reference allele. The nucleic acids, and primers and probes, are used to  
 CC identify polymorphisms, which may predispose an individual to disease,  
 CC especially a vascular disease. They can also be used in phenotype  
 CC correlations, forensics, paternity testing, medicine or genetic analysis.  
 CC AA49550 to AA49573 represent the proteins which correspond to some of  
 CC the reference alleles  
 CC  
 SQ Sequence 356 AA;  
 XX  
 Query Match 84.9%; Score 1972; DB 2; Length 356;  
 Best Local Similarity 100.0%; Pred. No. 2e-120;  
 Matches 355; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 65 GGGCTCTGTSFSCDSRGSGMGRFCQREVSPFNGSLDNGGCTHYCLEEYGMRRCSGAPGY 124  
 DB 2 GGGCTCTGTSFSCDSRGSGMGRFCQREVSPFNGSLDNGGCTHYCLEEYGMRRCSGAPGY 61  
 QY 125 KLGGDLQCHPAVKFPCGRPMKMEKKRSHLRDTEDEQDVDPRLIDGMTRRGDSFWQ 184  
 DB 62 KLGGDLQCHPAVKFPCGRPMKMEKKRSHLRDTEDEQDVDPRLIDGMTRRGDSFWQ 121  
 QY 185 VLLDSKKKLACGAVLIHPSWVLTAAHCDDESKKLVLGEGYDLRRMEKMEILD 244  
 DB 122 VLLDSKKKLACGAVLIHPSWVLTAAHCDDESKKLVLGEGYDLRRMEKMEILD 181  
 QY 245 VHPNYSKSTNDNDIALHLAQPATLSQTIPTICLPDSGLARELNQAGETLVYWGYS 304  
 DB 182 VHPNYSKSTNDNDIALHLAQPATLSQTIPTICLPDSGLARELNQAGETLVYWGYS 241  
 QY 305 SSEEKAKRNTFVLANFIKIPVPHNECEVSNMVSNNMLCAGILGRDACAEGD 364  
 DB 242 SSEEKAKRNTFVLANFIKIPVPHNECEVSNMVSNNMLCAGILGRDACAEGD 301  
 QY 365 VASFHGTWFLVGLVSWGSGCGLHNHYGVYTKVSRYLDMTHGIRDXEAPQKSWAP 419  
 DB 302 VASFHGTWFLVGLVSWGSGCGLHNHYGVYTKVSRYLDMTHGIRDXEAPQKSWAP 356  
 RESULT 148  
 AA212196  
 ID AA212196 standard; protein; 262 AA.  
 XX

AC AAR12196;  
 XX 25-MAR-2003 (revised)  
 DT 09-JUL-1991 (first entry)  
 XX  
 DE Human protein C catalytic domain mutant F(213)->R.  
 XX  
 KM Anticoagulant; phlebotrombosis.  
 XX  
 OS Homo sapiens.  
 XX  
 FH Key Location/Qualifiers  
 FT Peptide 1..12  
 FT Disulfide-bond 27..54  
 FT Active-site 42  
 FT Disulfide-bond 174..188  
 FT Active-site 191  
 FT Disulfide-bond 199..227  
 FT Region 213  
 FT /label= E replaced by R  
 XX  
 PN JP03072877-A.  
 XX  
 PD 28-MAR-1991.  
 XX  
 PF 10-AUG-1989; 89JP-00205698.  
 XX  
 PR 10-AUG-1989; 89JP-00205698.  
 XX  
 PA (TEIJU) TEIJIN LTD.  
 XX  
 DR WPI; 1991-136309/19.  
 XX  
 PT Activated human protein C deriv. and DNA encoding it - has prolonged  
 PT blood half life for use as an anticoagulant.  
 XX  
 PS Claim 1; Fig 1; 15pp; Japanese.  
 XX  
 CC The mutant has a prolonged half-life in blood compared with natural  
 CC activated human protein C. Alternative positions for substns. are  
 CC Asp(20), Lys(22), Lys(23), Lys(24), Asp(45), Lys(48), Lys(490), Asp(182),  
 CC Arg(183), Asp(185) and Trp(211). The amino acid is replaced with an  
 CC oppositely charged residue. The active site amino acids, His(42),  
 CC Asp(88), and Ser(191) must be present. See also AAR11838 and AAR12192-  
 CC R12195. (Updated on 25-MAR-2003 to correct PA field.)  
 XX  
 SQ Sequence 262 AA;  
 Query Match 60.6%; Score 1409; DB 2; Length 262;  
 Best Local Similarity 99.2%; Pred. No. 5.8e-84;  
 Matches 260; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
 QY 158 DTEDEQDVDPRLIDGKMTRRGSPWQVLLDSKKKLAGAVLIHPSWVLTAAACMDESK 217  
 DB 1 DTEDEQDVDPRLIDGKMTRRGSPWQVLLDSKKKLAGAVLIHPSWVLTAAACMDESK 60  
 QY 218 KLVRLGEYDLRRWEKWEIIDIKEVFVHPNYSKSTNDNDIALHLAQPATLSQTIPIIC 277  
 DB 61 KLVRLGEYDLRRWEKWEIIDIKEVFVHPNYSKSTNDNDIALHLAQPATLSQTIPIIC 120  
 QY 278 LPDSGLAERELNQAQGETLVYGMGYHSREKAKRNTFVLFNIKIPVPHNECSEYMN 337  
 DB 121 LPDSGLAERELNQAQGETLVYGMGYHSREKAKRNTFVLFNIKIPVPHNECSEYMN 180  
 QY 338 MVSENMICAGIIGDRQDACEGDSGSPVVASPHGTWFLVGLVSWGECGLHNYGVYTKVS 397  
 DB 181 MVSENMICAGIIGDRQDACEGDSGSPVVASPHGTWFLVGLVSWGECGLHNYGVYTKVS 240  
 QY 398 RYLDWTHGHTRDKRPAQKSWAP 419  
 DB 241 RYLDWTHGHTRDKRPAQKSWAP 262

RESULT 149  
 ID AAR12193 standard; protein; 262 AA.  
 XX  
 AC AAR12193;  
 XX  
 DT 25-MAR-2003 (revised)  
 DT 09-JUL-1991 (first entry)  
 XX  
 DE Human protein C catalytic domain mutant R(183)->D.  
 XX  
 KM Anticoagulant; phlebotrombosis.  
 XX  
 OS Homo sapiens.  
 XX  
 FH Key Location/Qualifiers  
 FT Peptide 1..12  
 FT Disulfide-bond 27..54  
 FT Active-site 42  
 FT Disulfide-bond 174..188  
 FT Region 183  
 FT /label= R replaced by D  
 FT Active-site 191  
 FT Disulfide-bond 199..227  
 XX  
 PN JP03072877-A.  
 XX  
 PD 28-MAR-1991.  
 XX  
 PF 10-AUG-1989; 89JP-00205698.  
 XX  
 PR 10-AUG-1989; 89JP-00205698.  
 XX  
 PA (TEIJU) TEIJIN LTD.  
 XX  
 DR WPI; 1991-136309/19.  
 XX  
 PT Activated human protein C deriv. and DNA encoding it - has prolonged  
 PT blood half life for use as an anticoagulant.  
 XX  
 PS Claim 1; Fig 1; 15pp; Japanese.  
 XX  
 CC The mutant has a prolonged half-life in blood compared with natural  
 CC activated human protein C. Alternative positions for substns. are  
 CC Asp(20), Lys(22), Lys(23), Lys(24), Asp(45), Lys(48), Lys(490), and  
 CC Asp(185), Trp(211) and Glu(213). The amino acid is replaced with an  
 CC oppositely charged residue. The active site amino acids, His(42),  
 CC Asp(88), and Ser(191) must be present. See also AAR11838 and AAR12192-  
 CC R12196. (Updated on 25-MAR-2003 to correct PA field.)  
 XX  
 SQ Sequence 262 AA;  
 Query Match 60.5%; Score 1407; DB 2; Length 262;  
 Best Local Similarity 99.2%; Pred. No. 7.9e-84;  
 Matches 260; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
 QY 158 DTEDEQDVDPRLIDGKMTRRGSPWQVLLDSKKKLAGAVLIHPSWVLTAAACMDESK 217  
 DB 1 DTEDEQDVDPRLIDGKMTRRGSPWQVLLDSKKKLAGAVLIHPSWVLTAAACMDESK 60  
 QY 218 KLVRLGEYDLRRWEKWEIIDIKEVFVHPNYSKSTNDNDIALHLAQPATLSQTIPIIC 277  
 DB 61 KLVRLGEYDLRRWEKWEIIDIKEVFVHPNYSKSTNDNDIALHLAQPATLSQTIPIIC 120  
 QY 278 LPDSGLAERELNQAQGETLVYGMGYHSREKAKRNTFVLFNIKIPVPHNECSEYMN 337  
 DB 121 LPDSGLAERELNQAQGETLVYGMGYHSREKAKRNTFVLFNIKIPVPHNECSEYMN 180  
 QY 338 MVSENMICAGIIGDRQDACEGDSGSPVVASPHGTWFLVGLVSWGECGLHNYGVYTKVS 397

Db 181 MSENMLCAGILGDRDACEGDSGGPMVASFHGTWFLVGLVSMGEGCGLLHNTGVYTKYS 240  
 Qy 398 RYLDWIHGHIRDKEAPQKSWAP 419  
 Db 241 RYLDWIHGHIRDKEAPQKSWAP 262

## RESULT 150

AAR1838

ID AAR1838 standard; peptide; 262 AA.

XX AAR1838;

AC AAR1838;

DT 25-MAR-2003 (revised)

DT 09-JUL-1991 (first entry)

DE Human protein C catalytic domain mutant D(45)-&gt;R.

KM Anticoagulant; phlebotrombosis.

OS Homo sapiens.

FH Key Location/Qualifiers

FT Peptide 1..12

FT Disulfide-bond 27..54 /label= activation peptide

FT Region 42

FT /label= D replaced by R

FT Active-site 42

FT Active-site 88

FT Disulfide-bond 174..188

FT Active-site 191

FT Disulfide-bond 199..227

PN JP03072877-A.

XX

PD 28-MAR-1991.

PF 10-AUG-1989; 89JP-00205698.

PR 10-AUG-1989; 89JP-00205698.

XX

PA (TEIJ ) TEIJUN LTD.

DR WPI; 1991-136309/19.

XX

PT Activated human protein C deriv. and DNA encoding it - has prolonged

PT blood half life for use as an anticoagulant.

XX

PS Claim 1; Fig 1; 15pp; Japanese.

XX

CC The mutant has a prolonged half-life in blood compared with natural

CC activated human protein C. Alternative positions for substituents are

CC Asp(20), Lys(23), Lys(24), Lys(48), Lys(490), Asp(182) and

CC Arg(183), Asp(185), Trp(211) and Glu(213). The amino acid is replaced

CC with an oppositely charged residue. The active site amino acids, His(42),

CC Asp(88), and Ser(191) must be present. See also AAR12192-R12196. (Updated

CC on 25-MAR-2003 to correct PA field.)

XX

SQ Sequence 262 AA;

Query Match 60.5%; Score 1406; DB 2; Length 262;

Best Local Similarity 99.2%; Pred. No. 9.1e-84;

Matches 260; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 158 DTEDEQDVDPRLIDGKMTTRGDSPMQVVLDSKKKLACGAVLIHPSWVLTAAHQMDESK 217

Db 1 DTEDEQDVDPRLIDGKMTTRGDSPMQVVLDSKKKLACGAVLIHPSWVLTAAHQMDESK 60

Qy 218 KLIVLGEYDLRRWEKMLDLDIKVFAHFNYSKSTTNDTALHLAOPATLSQTIYVIC 277

Db 61 KLIVLGEYDLRRWEKMLDLDIKVFAHFNYSKSTTNDTALHLAOPATLSQTIYVIC 120

Qy 278 LPDSGLAEELNQAQETIVTGMVHSSREKAKRNTFVLNFIKIPVPHNCSRWMSN 337  
 Db 121 LPDSGLAEELNQAQETIVTGMVHSSREKAKRNTFVLNFIKIPVPHNCSRWMSN 180  
 Qy 338 MSENMLCAGILGDRDACEGDSGGPMVASFHGTWFLVGLVSMGEGCGLLHNTGVYTKYS 397  
 Db 181 MSENMLCAGILGDRDACEGDSGGPMVASFHGTWFLVGLVSMGEGCGLLHNTGVYTKYS 240  
 Qy 398 RYLDWIHGHIRDKEAPQKSWAP 419  
 Db 241 RYLDWIHGHIRDKEAPQKSWAP 262

Search completed: June 14, 2004, 17:48:23  
 Job time : 69 secs

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CURRENT APPLICATION NUMBER: US/10/182,263
CURRENT FILING DATE: 2002-07-22
PRIOR APPLICATION NUMBER: 60/181948
PRIOR FILING DATE: 2002-02-11
PRIOR APPLICATION NUMBER: 60/189199
PRIOR FILING DATE: 2000-03-14
NUMBER OF SEQ ID NOS: 12
SOFTWARE: PatentIn version 3.1
SEQ ID NO: 6
LENGTH: 419
TYPE: PRT
ORGANISM: Homo sapiens
US-10-182,263-6

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Query Match	98.5%	Score 2288;	DB 4;	Length 419;
Best Local Similarity	98.6%	Pred. No. 1e-187;		
Matches 413; Conservative	2;	Mismatches 4;	Indels 0;	Gaps 0;

QY	1	ANSTLEELHSSLEECIEEICDFEEAEIIPVWDOTTLAFMSKIVDQOCVLPLEHCA	60	
		1	ANSTLEELHSSLEECIEEICDFEEAEIIPVWDOTTLAFMSKIVDQOCVLPLEHCA	60
Db	1	ANSTLEELHSSLEECIEEICDFEEAEIIPVWDOTTLAFMSKIVDQOCVLPLEHCA	60	
QY	61	SLCCGHTCIDIIGSFSQDCRSGMGGRFCOREVPSLNGSLNGCTHYCLIEEVMRRSC	120	
Db	61	SLCCGHTCIDIIGSFSQDCRSGMGGRFCOREVPSLNGSLNGCTHYCLIEEVMRRSC	120	
QY	121	APGKUGDULLOCHPAKPFQCRPMKREKKRSHLRDTEQEOBQVPRLLDGKTRGD	180	
Db	121	APGKUGDULLOCHPAKPFQCRPMKREKKRSHLRDTEQEOBQVPRLLDGKTRGD	180	
QY	181	SPQOVVLILDSKKDAGCAVLIHPSVLTPAHCMDSEKLLVLALEYVLREMEKELDDI	240	
Db	181	SPQOVVLILDSKKDAGCAVLIHPSVLTPAHCMDSEKLLVLALEYVLREMEKELDDI	240	
QY	241	KEVVEHNTSKSTTDNDIALHLAQPATLSQTVPLCLPDSGLARELNAQGETLVGW	300	
Db	241	KEVVEHNTSKSTTDNDIALHLAQPATLSQTVPLCLPDSGLARELNAQGETLVGW	300	
QY	301	GYHSREKAKENRTFVLNFIKIPVPHNECESEMSNMVSEMLCAGILCDRDCEDS	360	
Db	301	GYHSREKAKENRTFVLNFIKIPVPHNECESEMSNMVSEMLCAGILCDRDCEDS	360	
QY	361	GEPVWASPFQGTWFLVGLVSGEGCGLLNHYVYTKSRVLDLHGHRLDEAPQSNAP	419	
Db	361	GEPVWASPFQGTWFLVGLVSGEGCGLLNHYVYTKSRVLDLHGHRLDEAPQSNAP	419	

Search completed: June 2, 2004, 16:58:16  
Job time : 28 secs.

Best Local Similarity 98.6%; Pred. No. 5.3e-188;  
Matches 413; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

QY 1 ANSFLELRHSLSRECEIEICDPEEAKEIFQVNDTLAFMSKHYVGDQCLVPLHPCA 60  
DB 43 ANSFLELRHSLSRECEIEICDPEEAKEIFQVNDTLAFMSKHYVGDQCLVPLHPCA 102  
QY 61 SLCCGHTCIDIGISFSCDRSGWGRFCQREVSFLNSLNDGCTHYCLEEVGRRCSC 120  
DB 103 SLCCGHTCIDIGISFSCDRSGWGRFCQREVSFLNSLNDGCTHYCLEEVGRRCSC 162  
QY 121 APGYLGDLLQCHPAVPCGPRPKMEKRSKSHKRTEDQEDQVPRLLDKMTRRGD 180  
DB 163 APGYLGDLLQCHPAVPCGPRPKMEKRSKSHKRTEDQEDQVPRLLDKMTRRGD 222  
QY 181 SPQVVLDSKKKLAGAVLIHPSVLTAAHCHMDESCKLVRLGEYDLRRMEKMLDDI 240  
DB 223 SPQVVLDSKKKLAGAVLIHPSVLTAAHCHMDESCKLVRLGEYDLRRMEKMLDDI 282  
QY 241 KEVFAHPNYSKSTTNDIALHLAQPATLSQITVPCLPDGLARELNQAGETLVYTW 300  
DB 283 KEVFAHPNYSKSTTNDIALHLAQPATLSQITVPCLPDGLARELNQAGETLVYTW 342  
QY 301 GHSSREKAKRNTFVNFIKIPVPHNECSVMNSNMCAGLIGRQDACEGDS 360  
DB 343 GHSSREKAKRNTFVNFIKIPVPHNECSVMNSNMCAGLIGRQDACEGDS 402  
QY 361 GGPVVASFHGTWFLVGLVSWGCGGLHNVGYTVHSRYLDMHGHIRDKAPQKSNAP 419  
DB 403 GGPVVASFHGTWFLVGLVSWGCGGLHNVGYTVHSRYLDMHGHIRDKAPQKSNAP 461

RESULT 13  
5270178-18  
Patent No. 5270178  
; APPLICANT: GERLITZ, BRUCE E.; GRINELL, BRIAN W  
; TITLE OF INVENTION: VECTORS AND COMPOUNDS FOR EXPRESSION OF  
; ZMOGEN FORMS OF HUMAN PROTEIN C  
; NUMBER OF SEQUENCES: 21  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/484,133  
; FILING DATE: 23-FEB-1990  
; SEQ ID NO:18  
; LENGTH: 461  
5270178-18

Query Match 98.6%; Score 2292; DB 6; Length 461;  
Best Local Similarity 98.6%; Pred. No. 5.3e-188;  
Matches 413; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

QY 1 ANSFLELRHSLSRECEIEICDPEEAKEIFQVNDTLAFMSKHYVGDQCLVPLHPCA 60  
DB 43 ANSFLELRHSLSRECEIEICDPEEAKEIFQVNDTLAFMSKHYVGDQCLVPLHPCA 102  
QY 61 SLCCGHTCIDIGISFSCDRSGWGRFCQREVSFLNSLNDGCTHYCLEEVGRRCSC 120  
DB 103 SLCCGHTCIDIGISFSCDRSGWGRFCQREVSFLNSLNDGCTHYCLEEVGRRCSC 162  
QY 121 APGYLGDLLQCHPAVPCGPRPKMEKRSKSHKRTEDQEDQVPRLLDKMTRRGD 180  
DB 163 APGYLGDLLQCHPAVPCGPRPKMEKRSKSHKRTEDQEDQVPRLLDKMTRRGD 222  
QY 181 SPQVVLDSKKKLAGAVLIHPSVLTAAHCHMDESCKLVRLGEYDLRRMEKMLDDI 240  
DB 223 SPQVVLDSKKKLAGAVLIHPSVLTAAHCHMDESCKLVRLGEYDLRRMEKMLDDI 282  
QY 241 KEVFAHPNYSKSTTNDIALHLAQPATLSQITVPCLPDGLARELNQAGETLVYTW 300  
DB 283 KEVFAHPNYSKSTTNDIALHLAQPATLSQITVPCLPDGLARELNQAGETLVYTW 342  
QY 301 GHSSREKAKRNTFVNFIKIPVPHNECSVMNSNMCAGLIGRQDACEGDS 360  
DB 343 GHSSREKAKRNTFVNFIKIPVPHNECSVMNSNMCAGLIGRQDACEGDS 402

QY 361 GGPVVASFHGTWFLVGLVSWGCGGLHNVGYTVHSRYLDMHGHIRDKAPQKSNAP 419  
DB 403 GGPVVASFHGTWFLVGLVSWGCGGLHNVGYTVHSRYLDMHGHIRDKAPQKSNAP 461

RESULT 14  
US-10-182-263-3  
; Sequence 3, Application US/10182263  
; Patent No. 6630138  
; GENERAL INFORMATION:  
; APPLICANT: Gerlitz, Bruce E  
; APPLICANT: Jones, Bryan E  
; APPLICANT: Grinnell, Brian W  
; TITLE OF INVENTION: PROTEIN C DERIVATIVES  
; FILE REFERENCE: X-13611  
; CURRENT APPLICATION NUMBER: US/10/182,263  
; PRIOR FILING DATE: 2002-07-22  
; PRIOR APPLICATION NUMBER: 60/181948  
; PRIOR FILING DATE: 2002-02-11  
; PRIOR APPLICATION NUMBER: 60/189199  
; PRIOR FILING DATE: 2000-03-14  
; NUMBER OF SEQ ID NOS: 12  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 3  
; LENGTH: 419  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-182-263-3

Query Match 98.5%; Score 2290; DB 4; Length 419;  
Best Local Similarity 98.6%; Pred. No. 7e-188;  
Matches 413; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

QY 1 ANSFLELRHSLSRECEIEICDPEEAKEIFQVNDTLAFMSKHYVGDQCLVPLHPCA 60  
DB 1 ANSFLELRHSLSRECEIEICDPEEAKEIFQVNDTLAFMSKHYVGDQCLVPLHPCA 60  
QY 61 SLCCGHTCIDIGISFSCDRSGWGRFCQREVSFLNSLNDGCTHYCLEEVGRRCSC 120  
DB 61 SLCCGHTCIDIGISFSCDRSGWGRFCQREVSFLNSLNDGCTHYCLEEVGRRCSC 120  
QY 121 APGYLGDLLQCHPAVPCGPRPKMEKRSKSHKRTEDQEDQVPRLLDKMTRRGD 180  
DB 121 APGYLGDLLQCHPAVPCGPRPKMEKRSKSHKRTEDQEDQVPRLLDKMTRRGD 180  
QY 181 SPQVVLDSKKKLAGAVLIHPSVLTAAHCHMDESCKLVRLGEYDLRRMEKMLDDI 240  
DB 181 SPQVVLDSKKKLAGAVLIHPSVLTAAHCHMDESCKLVRLGEYDLRRMEKMLDDI 240  
QY 241 KEVFAHPNYSKSTTNDIALHLAQPATLSQITVPCLPDGLARELNQAGETLVYTW 300  
DB 241 KEVFAHPNYSKSTTNDIALHLAQPATLSQITVPCLPDGLARELNQAGETLVYTW 300  
QY 301 GHSSREKAKRNTFVNFIKIPVPHNECSVMNSNMCAGLIGRQDACEGDS 360  
DB 301 GHSSREKAKRNTFVNFIKIPVPHNECSVMNSNMCAGLIGRQDACEGDS 360  
QY 361 GGPVVASFHGTWFLVGLVSWGCGGLHNVGYTVHSRYLDMHGHIRDKAPQKSNAP 419  
DB 361 GGPVVASFHGTWFLVGLVSWGCGGLHNVGYTVHSRYLDMHGHIRDKAPQKSNAP 419

RESULT 15  
US-10-182-263-6  
; Sequence 6, Application US/10182263  
; Patent No. 6630138  
; GENERAL INFORMATION:  
; APPLICANT: Gerlitz, Bruce E  
; APPLICANT: Jones, Bryan E  
; APPLICANT: Grinnell, Brian W  
; TITLE OF INVENTION: PROTEIN C DERIVATIVES  
; FILE REFERENCE: X-13611



GENERAL INFORMATION:  
APPLICANT: Garner, Ian R.  
APPLICANT: Cottingham, Ian R.  
APPLICANT: Temperley, Simon M.  
APPLICANT: Foster, Donald C.  
APPLICANT: Sprecher, Cindy A.  
APPLICANT: Prunkard, Donna E.  
TITLE OF INVENTION: PROTEIN C PRODUCTION IN TRANSGENIC  
TITLE OF INVENTION: ANIMALS  
NUMBER OF SEQUENCES: 25  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: ZymoGenetics, Inc.  
STREET: 1201 Eastlake Avenue East  
CITY: Seattle  
STATE: WA  
COUNTRY: USA  
ZIP: 98102  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08-756,506  
FILING DATE:  
CLASSIFICATION: 800  
ATTORNEY/AGENT INFORMATION:  
NAME: Sawislak, Deborah A.  
REGISTRATION NUMBER: 37,438  
REFERENCE/DOCKET NUMBER: 95-28  
TELEPHONE: 206-442-6672  
TELEFAX: 206-442-6678  
INFORMATION FOR SEQ ID NO: 4:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 460 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-756-506-4

Query Match 99.7%; Score 2317; DB 2; Length 460;  
Best Local Similarity 100.0%; Pred. No. 3.9e-190;  
Matches 418; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 1 ANSFLELRHSLSRECEIEICDPEEAKELFQVDDTLAFWSKHVGDQCVLPLEHPCA 60  
43 ANSFLELRHSLSRECEIEICDPEEAKELFQVDDTLAFWSKHVGDQCVLPLEHPCA 102  
Qy 61 SLCCGHTCIDIGSGSCDCRSWGEGFCCQREVSEFLNSLDNGCTHYCLEEVMRRSC 120  
Db 103 SLCCGHTCIDIGSGSCDCRSWGEGFCCQREVSEFLNSLDNGCTHYCLEEVMRRSC 162  
Qy 121 APGYLDGDLLOCHPAVPCGPRPKMEKRSKHLKRTEDQEQVDPRLIDGKMTREGD 180  
Db 163 APGYLDGDLLOCHPAVPCGPRPKMEKRSKHLKRTEDQEQVDPRLIDGKMTREGD 222  
Qy 181 SPQVYVLLDSKKKLAAGAVLHPSWVLTAAHCHMDESKLLVRLGEYDLRMEKMLDDI 240  
Db 223 SPQVYVLLDSKKKLAAGAVLHPSWVLTAAHCHMDESKLLVRLGEYDLRMEKMLDDI 282  
Qy 241 KEVFNHVPYKSTTDDNDIALHLAOPATLSQTTVPICLPDSGLARELNOAGETLVYTW 300  
Db 283 KEVFNHVPYKSTTDDNDIALHLAOPATLSQTTVPICLPDSGLARELNOAGETLVYTW 342  
Qy 301 GHSSREKEAKRNTFVNLFIKIPVPHNCSFVMSNMVSENMCAIGLDRODACEGDS 360  
Db 343 GHSSREKEAKRNTFVNLFIKIPVPHNCSFVMSNMVSENMCAIGLDRODACEGDS 402  
Qy 361 GGPMTASFHGTWFLVGLVSMGEGCLLHNYGYTTKVSRYLDMIGHIRDEKAPQKSWA 418  
Db 403 GGPMTASFHGTWFLVGLVSMGEGCLLHNYGYTTKVSRYLDMIGHIRDEKAPQKSWA 460

RESULT 11  
US-10-182-263-5  
Sequence 5, Application US/10182263  
Patent No. 6630138  
GENERAL INFORMATION:  
APPLICANT: Gerlitz, Bruce E.  
APPLICANT: Jones, Bryan E.  
APPLICANT: Grinnell, Brian W.  
TITLE OF INVENTION: PROTEIN C DERIVATIVES  
FILE REFERENCE: X-13611  
CURRENT FILING DATE: US/10/182,263  
CURRENT FILING DATE: 2002-07-22  
PRIOR APPLICATION NUMBER: 60/181948  
PRIOR FILING DATE: 2002-02-11  
PRIOR APPLICATION NUMBER: 60/189199  
PRIOR FILING DATE: 2000-03-14  
NUMBER OF SEQ ID NOS: 12  
SOFTWARE: Patent in version 3.1  
SEQ ID NO 5  
LENGTH: 419  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-182-263-5

Query Match 98.8%; Score 2296; DB 4; Length 419;  
Best Local Similarity 98.8%; Pred. No. 2.2e-188;  
Matches 414; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

Db 1 ANSFLELRHSLSRECEIEICDPEEAKELFQVDDTLAFWSKHVGDQCVLPLEHPCA 60  
1 ANSFLELRHSLSRECEIEICDPEEAKELFQVDDTLAFWSKHVGDQCVLPLEHPCA 60  
Qy 61 SLCCGHTCIDIGSGSCDCRSWGEGFCCQREVSEFLNSLDNGCTHYCLEEVMRRSC 120  
Db 61 SLCCGHTCIDIGSGSCDCRSWGEGFCCQREVSEFLNSLDNGCTHYCLEEVMRRSC 120  
Qy 121 APGYLDGDLLOCHPAVPCGPRPKMEKRSKHLKRTEDQEQVDPRLIDGKMTREGD 180  
Db 121 APGYLDGDLLOCHPAVPCGPRPKMEKRSKHLKRTEDQEQVDPRLIDGKMTREGD 180  
Qy 181 SPQVYVLLDSKKKLAAGAVLHPSWVLTAAHCHMDESKLLVRLGEYDLRMEKMLDDI 240  
Db 181 SPQVYVLLDSKKKLAAGAVLHPSWVLTAAHCHMDESKLLVRLGEYDLRMEKMLDDI 240  
Qy 241 KEVFNHVPYKSTTDDNDIALHLAOPATLSQTTVPICLPDSGLARELNOAGETLVYTW 300  
Db 241 KEVFNHVPYKSTTDDNDIALHLAOPATLSQTTVPICLPDSGLARELNOAGETLVYTW 300  
Qy 301 GHSSREKEAKRNTFVNLFIKIPVPHNCSFVMSNMVSENMCAIGLDRODACEGDS 360  
Db 301 GHSSREKEAKRNTFVNLFIKIPVPHNCSFVMSNMVSENMCAIGLDRODACEGDS 360  
Qy 361 GGPMTASFHGTWFLVGLVSMGEGCLLHNYGYTTKVSRYLDMIGHIRDEKAPQKSWA 419  
Db 361 GGPMTASFHGTWFLVGLVSMGEGCLLHNYGYTTKVSRYLDMIGHIRDEKAPQKSWA 419

RESULT 12  
5270178-17  
Patent No. 5270178  
APPLICANT: GERLITZ, BRUCE E.; GRINNELL, BRIAN W.  
TITLE OF INVENTION: VECTORS AND COMPOUNDS FOR EXPRESSION OF  
ZMOGEN FORMS OF HUMAN PROTEIN C  
NUMBER OF SEQUENCES: 21  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/07/484,133  
FILING DATE: 23-FEB-1990  
SEQ ID NO:17;  
LENGTH: 461  
5270178-17

Query Match 98.6%; Score 2292; DB 6; Length 461;

DB 283 KEVFAHPNYSKSTINDIALHLAQPATLSQITVPICLPDSGLARELNQAGETLVYGM 342  
QY 301 GHSSREKAKRNTFVNFPIKIPVPHNECEVSNMVSNNLCAGLIDRODACEGDS 360  
DB 343 GHSSREKAKRNTFVNFPIKIPVPHNECEVSNMVSNNLCAGLIDRODACEGDS 402  
QY 361 GGPWVASFHGTWFLVGLVSMGCGGLHNYGVYTKVSRYLDMIGHIRDEKAPQKSNAP 419  
DB 403 GGPWVASFHGTWFLVGLVSMGCGGLHNYGVYTKVSRYLDMIGHIRDEKAPQKSNAP 461

## RESULT 8

5460953-3  
PATENT NO. 5460953  
APPLICANT: GERLITZ, BRUCE E.; GINNELL, BRIAN W.  
TITLE OF INVENTION: VECTORS AND COMPOUNDS FOR EXPRESSION OF  
GLYCOSYLATION MUTANTS OF HUMAN PROTEIN C  
NUMBER OF SEQUENCES: 3  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/93,217  
FILING DATE: 09-SEP-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 628,063  
FILING DATE: 21-DEC-1990  
APPLICATION NUMBER: 484,081  
FILING DATE: 23-FEB-1990  
SEQ ID NO: 3  
LENGTH: 461  
5460953-3

Query Match 99.7%; Score 2318; DB 6; Length 461;  
Best Local Similarity 99.8%; Pred. No. 3.2e-190;  
Matches 418; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 ANSFLEELRHSSLEBCEIEICDPEBAKEIFQNVDDTLAFMSKHVGDQCLVPLIEHPCA 60  
DB 43 ANSFLEELRHSSLEBCEIEICDPEBAKEIFQNVDDTLAFMSKHVGDQCLVPLIEHPCA 102  
QY 61 SLCCGHGTCIDIGSFSCDCRSGBEGRFCQREVSFLNCSLDNGGCTHYCLEBVGMRRCSC 120  
DB 103 SLCCGHGTCIDIGSFSCDCRSGBEGRFCQREVSFLNCSLDNGGCTHYCLEBVGMRRCSC 162  
QY 121 APGYKLGDDLLQCHPAVKPCGPRPKMEKKRSHLKRTEDEQDVDPRLIDGKMTRRGD 180  
DB 163 APGYKLGDDLLQCHPAVKPCGPRPKMEKKRSHLKRTEDEQDVDPRLIDGKMTRRGD 222  
QY 181 SPQOVVLLDSKKKLACGAVLIHPSWVLTAAHQMDSKKLVRIGEYDLRRMEKWEELDDI 240  
DB 223 SPQOVVLLDSKKKLACGAVLIHPSWVLTAAHQMDSKKLVRIGEYDLRRMEKWEELDDI 282  
QY 241 KEVFAHPNYSKSTINDIALHLAQPATLSQITVPICLPDSGLARELNQAGETLVYGM 300  
DB 283 KEVFAHPNYSKSTINDIALHLAQPATLSQITVPICLPDSGLARELNQAGETLVYGM 342  
QY 301 GHSSREKAKRNTFVNFPIKIPVPHNECEVSNMVSNNLCAGLIDRODACEGDS 360  
DB 343 GHSSREKAKRNTFVNFPIKIPVPHNECEVSNMVSNNLCAGLIDRODACEGDS 402  
QY 361 GGPWVASFHGTWFLVGLVSMGCGGLHNYGVYTKVSRYLDMIGHIRDEKAPQKSNAP 419  
DB 403 GGPWVASFHGTWFLVGLVSMGCGGLHNYGVYTKVSRYLDMIGHIRDEKAPQKSNAP 461

## RESULT 9

US-08-756-506-2  
SEQUENCE 2, Application US/08756506  
PATENT NO. 5905185  
GENERAL INFORMATION:  
APPLICANT: Garner, Ian  
APPLICANT: Cottingham, Ian R.  
APPLICANT: Temperley, Simon M.  
APPLICANT: Foster, Donald C.

APPLICANT: Sprecher, Cindy A.  
APPLICANT: Prunkard, Donna E.  
TITLE OF INVENTION: PROTEIN C PRODUCTION IN TRANSGENIC  
NUMBER OF SEQUENCES: 25  
CORESPONDENCE ADDRESS:  
ADDRESS: ZymoGenetics, Inc.  
STREET: 1201 Eastlake Avenue East  
CITY: Seattle  
STATE: WA  
COUNTRY: USA  
ZIP: 98102  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/756,506  
FILING DATE:  
CLASSIFICATION: 800  
ATTORNEY/AGENT INFORMATION:  
NAME: Sawislak, Deborah A  
REGISTRATION NUMBER: 37,438  
REFERENCE/DOCKET NUMBER: 95-28  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 206-442-6672  
TELEFAX: 206-442-6678  
INFORMATION FOR SEQ ID NO: 2:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 460 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-756-506-2

Query Match 99.7%; Score 2317; DB 2; Length 460;  
Best Local Similarity 100.0%; Pred. No. 3.9e-190;  
Matches 418; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLEELRHSSLEBCEIEICDPEBAKEIFQNVDDTLAFMSKHVGDQCLVPLIEHPCA 60  
DB 43 ANSFLEELRHSSLEBCEIEICDPEBAKEIFQNVDDTLAFMSKHVGDQCLVPLIEHPCA 102  
QY 61 SLCCGHGTCIDIGSFSCDCRSGBEGRFCQREVSFLNCSLDNGGCTHYCLEBVGMRRCSC 120  
DB 103 SLCCGHGTCIDIGSFSCDCRSGBEGRFCQREVSFLNCSLDNGGCTHYCLEBVGMRRCSC 162  
QY 121 APGYKLGDDLLQCHPAVKPCGPRPKMEKKRSHLKRTEDEQDVDPRLIDGKMTRRGD 180  
DB 163 APGYKLGDDLLQCHPAVKPCGPRPKMEKKRSHLKRTEDEQDVDPRLIDGKMTRRGD 222  
QY 181 SPQOVVLLDSKKKLACGAVLIHPSWVLTAAHQMDSKKLVRIGEYDLRRMEKWEELDDI 240  
DB 223 SPQOVVLLDSKKKLACGAVLIHPSWVLTAAHQMDSKKLVRIGEYDLRRMEKWEELDDI 282  
QY 241 KEVFAHPNYSKSTINDIALHLAQPATLSQITVPICLPDSGLARELNQAGETLVYGM 300  
DB 283 KEVFAHPNYSKSTINDIALHLAQPATLSQITVPICLPDSGLARELNQAGETLVYGM 342  
QY 301 GHSSREKAKRNTFVNFPIKIPVPHNECEVSNMVSNNLCAGLIDRODACEGDS 360  
DB 343 GHSSREKAKRNTFVNFPIKIPVPHNECEVSNMVSNNLCAGLIDRODACEGDS 402  
QY 361 GGPWVASFHGTWFLVGLVSMGCGGLHNYGVYTKVSRYLDMIGHIRDEKAPQKSNAP 419  
DB 403 GGPWVASFHGTWFLVGLVSMGCGGLHNYGVYTKVSRYLDMIGHIRDEKAPQKSNAP 460

## RESULT 10

US-08-756-506-4  
SEQUENCE 4, Application US/08756506  
PATENT NO. 5905185

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LENGTH: 419 amino acids
TYPE: AMINO ACID
TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: NO
ANTI-SENSE: NO
FEATURE:
NAME/KEY: Region
LOCATION: 1..157
OTHER INFORMATION: /note= "Protein C Light Chain"
FEATURE:
NAME/KEY: Region
LOCATION: 158..169
OTHER INFORMATION: /note= "Protein C Activation"
OTHER INFORMATION: Peptide"
FEATURE:
NAME/KEY: Region
LOCATION: 170..419
OTHER INFORMATION: /note= "Protein C Heavy Chain"
PCT-US92-10242-1
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Query Match 100.0%; Score 2324; DB 5; Length 419;
Best Local Similarity 100.0%; Pred. No. 8.7e-191;
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 ANSFLELRHSLERECIEICDPEEAKEIFQNVDDTLAFMSKHVDGQCLVPLEHPCA 60
DB 1 ANSFLELRHSLERECIEICDPEEAKEIFQNVDDTLAFMSKHVDGQCLVPLEHPCA 60
QY 61 SLCGHGTCIDIGISFSCDCSGMEGRFCQREVSPFANCSLDNGCTHYCLEEVGRRCSC 120
DB 61 SLCGHGTCIDIGISFSCDCSGMEGRFCQREVSPFANCSLDNGCTHYCLEEVGRRCSC 120
QY 121 AFGYKLGDDLLQCHPAVKPCGRPMKMEKKSHLKRTDEQEDQVDPRLIDGKMTRRGD 180
DB 121 AFGYKLGDDLLQCHPAVKPCGRPMKMEKKSHLKRTDEQEDQVDPRLIDGKMTRRGD 180
QY 181 SPWQVLLDSKKKLACGAVLIHPSVLTAAHCDSESKLLVRLGEYDLRRWEKELDDI 240
DB 181 SPWQVLLDSKKKLACGAVLIHPSVLTAAHCDSESKLLVRLGEYDLRRWEKELDDI 240
QY 241 KEVFPVHNSKSTTNDIALHLAQPATLSQTTVPICLPDSGLARELNAGQETLVTVGW 300
DB 241 KEVFPVHNSKSTTNDIALHLAQPATLSQTTVPICLPDSGLARELNAGQETLVTVGW 300
QY 301 GHSSREKAEKRNRTVLNFIKIPVPHNECSEWMSNMVSENMLCAGILGDRQDACEGDS 360
DB 301 GHSSREKAEKRNRTVLNFIKIPVPHNECSEWMSNMVSENMLCAGILGDRQDACEGDS 360
QY 361 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGYTKVSRYLDMIGHIRDEKAPQKSNAP 419
DB 361 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGYTKVSRYLDMIGHIRDEKAPQKSNAP 419
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RESULT 6
US-10-182-263-2
Sequence 2, Application US/10182263
Patent No. 6630138
GENERAL INFORMATION:
```

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APPLICANT: Gerltz, Bruce E
APPLICANT: Jones, Bryan E
APPLICANT: Grinnell, Brian W
TITLE OF INVENTION: PROTEIN C DERIVATIVES
FILE REFERENCE: X-13611
CURRENT APPLICATION NUMBER: US/10/182,263
CURRENT FILING DATE: 2002-07-22
PRIOR APPLICATION NUMBER: 60/181948
PRIOR FILING DATE: 2002-02-11
PRIOR APPLICATION NUMBER: 60/189199
PRIOR FILING DATE: 2000-03-14
NUMBER OF SEQ ID NOS: 12
SOFTWARE: PatentIn version 3.1
SEQ ID NO 2
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LENGTH: 461
TYPE: PRT
ORGANISM: Homo sapiens
US-10-182-263-2
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Query Match 100.0%; Score 2324; DB 4; Length 461;
Best Local Similarity 100.0%; Pred. No. 9.8e-191;
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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QY 181 SPWQVLLDSKKKLACGAVLIHPSVLTAAHCDSESKLLVRLGEYDLRRWEKELDDI 240
DB 223 SPWQVLLDSKKKLACGAVLIHPSVLTAAHCDSESKLLVRLGEYDLRRWEKELDDI 282
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DB 283 KEVFPVHNSKSTTNDIALHLAQPATLSQTTVPICLPDSGLARELNAGQETLVTVGW 342
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QY 361 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGYTKVSRYLDMIGHIRDEKAPQKSNAP 419
DB 403 GGPWVASFHGTWFLVGLVSWGEGCGLLHNYGYTKVSRYLDMIGHIRDEKAPQKSNAP 461
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RESULT 7
US25537-2
Patent No. 5225537
APPLICANT: FOSTER, DONALD
TITLE OF INVENTION: METHODS FOR PRODUCING HYBRID
PHOSPHOLIPID-BINDING PROTEINS
NUMBER OF SEQUENCES: 14
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/459,082
FILING DATE: 29-DEC-1989
SEQ ID NO: 2
LENGTH: 461
US25537-2
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Query Match 100.0%; Score 2324; DB 6; Length 461;
Best Local Similarity 100.0%; Pred. No. 9.8e-191;
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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QY 241 KEVFPVHNSKSTTNDIALHLAQPATLSQTTVPICLPDSGLARELNAGQETLVTVGW 300
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APPLICANT: Carlson, Andrew D  
APPLICANT: Huang, Lihua  
APPLICANT: Sheliga, Theodore A  
TITLE OF INVENTION: Improved Methods for Processing Activated Protein C  
FILE REFERENCE: X-11796A  
CURRENT APPLICATION NUMBER: US/09/667,570A  
CURRENT FILING DATE: 2000-09-21  
PRIOR APPLICATION NUMBER: 60/045,255  
PRIOR FILING DATE: 1997-04-28  
NUMBER OF SEQ ID NOS: 3  
SOFTWARE: PatentIn version 3.1  
SEQ ID NO 3  
LENGTH: 419  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-09-667-570A-3

Query Match 100.0%; Score 2324; DB 4; Length 419;  
Best Local Similarity 100.0%; Pred. No. 8,7e-191;  
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DB 361 GGPWVASFHGTWFLVGLVSWGEGCLHNYGYTKVSRYLDMTHGIRDKKAPQKSMAP 419

RESULT 4  
US-10-182-263-1  
Sequence 1, Application US/10182263  
Patent No. 6630138  
GENERAL INFORMATION:  
APPLICANT: Geilitz, Bruce E  
APPLICANT: Jones, Bryan E  
APPLICANT: Grinnell, Brian W  
TITLE OF INVENTION: PROTEIN C DERIVATIVES  
FILE REFERENCE: X-13611  
CURRENT APPLICATION NUMBER: US/10/182,263  
CURRENT FILING DATE: 2002-07-22  
PRIOR APPLICATION NUMBER: 60/181948  
PRIOR FILING DATE: 2002-02-11  
PRIOR APPLICATION NUMBER: 60/189199  
PRIOR FILING DATE: 2000-03-14  
NUMBER OF SEQ ID NOS: 12  
SOFTWARE: PatentIn version 3.1  
SEQ ID NO 1  
LENGTH: 419  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-182-263-1

Query Match 100.0%; Score 2324; DB 4; Length 419;  
Best Local Similarity 100.0%; Pred. No. 8,7e-191;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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RESULT 5  
PCT-US92-10242-1  
Sequence 1, Application PCT/US9210242  
GENERAL INFORMATION:  
APPLICANT: Griffin, John H.  
APPLICANT: Masters, Rolf  
TITLE OF INVENTION: Serine Protease-Derived Polypeptides and  
TITLE OF INVENTION: Anti-Peptide Antibodies, Systems and Therapeutic Methods  
NUMBER OF SEQUENCES: 10  
CORRESPONDENCE ADDRESS:  
ADDRESSER: Office of Patent Counsel, The Scripps  
ADDRESSER: Research Institute  
STREET: 10666 North Torrey Pines Road, TPC 8  
CITY: La Jolla  
STATE: CA  
COUNTRY: USA  
ZIP: 92037  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
OPERATING SYSTEM: IBM PC compatible  
SOFTWARE: PatentIn Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: PCT/US92/10242  
FILING DATE: 19921118  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/793,989  
FILING DATE: 18-NOV-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Fitting, Thomas  
REGISTRATION NUMBER: 34,163  
REFERENCE/DOCKET NUMBER: SCR0472P  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 619-554-2937  
TELEFAX: 619-554-6312  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:

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OTHER INFORMATION: /note= "Protein C Light Chain"
FEATURE:
NAME/KEY: Region
LOCATION: 158..169
OTHER INFORMATION: /note= "Protein C Activation"
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NAME/KEY: Region
LOCATION: 170..419
OTHER INFORMATION: /note= "Protein C Heavy Chain"
US-08-295-411-1

Query Match
Best Local Similarity 100.0%; Score 2324; DB 1; Length 419;
Pred. No. 8,7e-191;
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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RESULT 2
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; Sequence 1, Application US/08955471
; Patent No. 5968751
; GENERAL INFORMATION:
; APPLICANT: Griffin, John H.
; APPLICANT: Westers, Rolf M.
; TITLE OF INVENTION: Serine Protease-Derived Polypeptides and
; TITLE OF INVENTION: Anti-Peptide Antibodies, Systems and Therapeutic Methods
; NUMBER OF SEQUENCES: 10
; CORRESPONDENCE ADDRESS:
; ADDRESSER: Office of Patent Counsel, The Scripps
; ADDRESSER: Research Institute
; STREET: 10666 No. 5968751th Torrey Pines Road, TPC 8
; CITY: La Jolla
; STATE: CA
; COUNTRY: USA
; ZIP: 92037
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/955,471
; FILING DATE:
; CLASSIFICATION:
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/295,411
FILING DATE:
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Fitting, Thomas
REGISTRATION NUMBER: 34,163
REFERENCE/DOCKET NUMBER: TSRI263.0C1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 619-554-2937
TELEFAX: 619-554-6312
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 419 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: NO
ANTI-SENSE: NO
FEATURE:
NAME/KEY: Region
LOCATION: 1..157
OTHER INFORMATION: /note= "Protein C Light Chain"
FEATURE:
NAME/KEY: Region
LOCATION: 158..169
OTHER INFORMATION: /note= "Protein C Activation"
OTHER INFORMATION: Peptide"
FEATURE:
NAME/KEY: Region
LOCATION: 170..419
OTHER INFORMATION: /note= "Protein C Heavy Chain"
US-08-955-471-1

Query Match
Best Local Similarity 100.0%; Score 2324; DB 2; Length 419;
Pred. No. 8,7e-191;
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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RESULT 3
US-09-667-570A-3
; Sequence 3, Application US/09667570A
; Patent No. 6436397
; GENERAL INFORMATION:
; APPLICANT: Baker, Jeffrey C
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GenCore version 5.1.6  
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## OM protein - protein search, using sw model

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Title: US-09-997-623-4

Perfect score: 2324

Sequence: 1 ANSLFLEHLSLRECEIE.....LDWIGHIRDKAPQKSWAP 419

Scoring table: BLOSUM62

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Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0  
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Post-processing: Minimum Match 10%

Listing first 45 summaries

## Database :

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Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

## SUMMARIES

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4	2324	100.0	419	4	US-10-182-263-1 Sequence 1, Appli
5	2324	100.0	419	5	PCT-US92-10242-1 Sequence 2, Appli
6	2324	100.0	461	4	US-10-182-263-2 Sequence 2, Appli
7	2324	100.0	461	6	522537-2 Patent No. 522537
8	2318	99.7	461	6	5460953-3 Patent No. 5460953
9	2317	99.7	460	2	US-08-756-506-2 Sequence 2, Appli
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11	2296	98.6	419	4	US-10-182-263-5 Sequence 5, Appli
12	2296	98.6	461	6	5270178-17 Patent No. 5270178
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## ALIGNMENTS

RESULT 1  
US-08-295-411-1  
Sequence 1, Application US/08295411  
Patent No. 5679639  
GENERAL INFORMATION:  
APPLICANT: Griffon, John H.  
APPLICANT: Meesters, Rolf M.  
TITLE OF INVENTION: Serine Protease-Derived Polypeptides and  
TITLE OF INVENTION: Anti-Peptide Antibodies, Systems and Therapeutic Methods  
NUMBER OF SEQUENCES: 10  
CORRESPONDENCE ADDRESS:  
ADDRESS: Office of Patent Counsel, The Scripps  
ADDRESS: Research Institute  
STREET: 10666 No. 5679639th Torrey Pines Road, TPC 8  
CITY: La Jolla  
STATE: CA  
COUNTRY: USA  
ZIP: 92037  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/295,411  
FILING DATE: 22-AUG-1994  
CLASSIFICATION: 530  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/793,989  
FILING DATE: 18-NOV-1991  
CLASSIFICATION: 530  
ATTORNEY/AGENT INFORMATION:  
NAME: Fitting, Thomas  
REGISTRATION NUMBER: 34,163  
REFERENCE/DOCKET NUMBER: TSRI263.0C1  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 619-554-2937  
TELEFAX: 619-554-6312  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 419 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
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NAME/KEY: Region  
LOCATION: 1..157

Db	272	AHCLHQAARFVKRVYGDNTEKEGNELVHEVDVVIKHNKFCQDPTDYDIAVLKTPITP	331
Qy	270	SQTIIVPICLDPDSCIARELNQAGQET-LVTGMCYHSREKEKXRTPEVNFIXIPIVPH	328
Db	332	RMNVAPACIPQKDWABESTL-MTQKIGIVSGFG--RTHEKGRQSN--ILKMLEVPYDR	384
Qy	329	NEGSEVMNMVSENMLCAGILGDRDACEGDSGGPMVASFHGTWFLVGLVSWGEGCGLIH	388
Db	385	NTCKLSTSFSLTQNMFCAGYEAKEDDACQDSDSGPHVTRFKNTYYVTGIVSWGEGCARG	444
Qy	389	NYGVYTKVSRYLDMIHGHIRDEAP	413
Db	445	KXGITYTKVTTFLXWIDRSMKARVGP	469

Search completed: June 2, 2004, 16:57:13  
 Job time : 67 secs

DR Pfam; PF00594; gla; 1.  
 DR PRINTS; PR00089; tryosin; 1.  
 DR PRINTS; PR00072; CHYMOTRYPSIN.  
 DR PRINTS; PR00010; EGFBLDOD.  
 DR PRINTS; PR00001; GLABLOOD.  
 DR SMART; SM00179; EGF CA; 1.  
 DR SMART; SM00069; gla; 1.  
 DR SMART; SM00020; TRYP SPC; 1.  
 DR PROSITE; PS00010; ASX HYDROXYL; 1.  
 DR PROSITE; PS00022; EGF\_1; 1.  
 DR PROSITE; PS01186; EGF\_2; 2.  
 DR PROSITE; PS01187; EGF CA; 1.  
 DR PROSITE; PS00011; GLUT CARBOXYLATION; 1.  
 DR PROSITE; PS00240; TRYPSIN DOM; 1.  
 DR PROSITE; PS00134; TRYPSIN\_HIS; 1.  
 DR PROSITE; PS00135; TRYPSIN\_SER; 1.  
 DR EGF-like domain; Hydrolase; Protease; Serine protease; Signal.  
 FT SIGNAL 1 40  
 FT CHAIN 1 40  
 SQ SEQUENCE 481 AA; 54018 MW; 8AC09DE5EF9D271E CRC64;

Query Match 34.2%; Score 794; DB 11; Length 481;  
 Best Local Similarity 36.4%; Pred. No. 1.3e-67;  
 Matches 162; Conservative 77; Mismatches 158; Indels 48; Gaps 9;

QY 1 ANSPLEELRHSSLERECIEICDFEAKETIFONVDDTLAFMSKRVDSGQCLVLPLEHPCA 60  
 DB 41 ANSFEEBKGNLRECEMEICSYEVRLEIFEDDEKTKYWKYKXGDCESP----- 94  
 QY 61 SLCCGHTCIDIGISFSCDGRSGWGRFQREVSFLNCSLDNGGCTHYCLEEVMRRCSC 120  
 DB 95 --CQNGACRGDIGYITCTCSGEGKNCLEFVRKL--CLDNGDCDQFCREQNSVVCSC 151  
 QY 121 AEGYKLGDDLLQCHPAVKPCGRPKMEKK-----RSLKRETD-----QEDQVDP----- 168  
 DB 152 ASGYFLGNDGKSCISTAPFCGKITTGRRKKSVALNTSDSLDELDALDEPLSTENP 211  
 QY 169 -----RLIDGKTRGDSFQWVLLDSKKKLAGAVLIHPSWVITA 209  
 DB 212 IELNLNETQPERSSDDVIRIVGRCCKDGCPCFQALLINENEGFCGCTILNEFYIITA 271  
 QY 210 AHCMDESKLLVRLGEYDLRMEKELDIKEVFNHNSKSTTDNDIALHLAQPATL 269  
 DB 272 AGLHGARRFKVGVGDNTEKEKGNMVEVDVVIKINKFQDITDYDIATLAKTPITF 331  
 QY 270 SCITVITCLPDSGLAEELNQAQGEI-LVTGMGYHSSREKREKRTVNLTKIIVPH 328  
 DB 332 RNVVAPACLPQKMAESTL--MTQKTGISGFG--RTHEKGRQSN--ILKMLEVYVDR 384  
 QY 329 NECSEVMNMSVEMNLCAGLIGDQDACEGDSGGPMVASFHGTFLVGLVSWEGCGLLH 388  
 DB 385 NTKCLSTSTISITQNMFCAGYEALDLACQDSGSPHTTRKTKYTVIGIYSWEGCARAG 444  
 QY 389 NYGVYTVKSRVYLWIHGHIRDEAP 413  
 DB 445 KYGIYTKVTTLKWLDRMKARVGP 469

## RESULT 15

ID 054740 PRELIMINARY; PRT; 481 AA.  
 AC 054740;  
 DT 01-JUN-1998 (TrEMBLrel. 06, Created)  
 DT 01-JUN-1998 (TrEMBLrel. 06, Last sequence update)  
 DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)  
 DE Coagulation factor X precursor (EC 3.4.21.6).  
 GN F10 OR F10.  
 OS Mus musculus (Mouse).  
 OG Plasmid pBluescript.  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
 NC NCBL\_taxid=10090;  
 RN [1]

RP SEQUENCE FROM N.A.  
 RC TISSUE=Liver;  
 RX MEDLINE=98454993; PubMed=9783672;  
 RA Heldmann H.H., Kontermann R.E.;  
 RT "Cloning and recombinant expression of mouse coagulation factor X";  
 RL Thromb. Res. 92:33-41 (1998).  
 CC -1 SIMILARITY; BELONGS TO PEPTIDASE FAMILY S1.  
 DR EMBL; AJ226277; CAA10933.1; -;  
 DR HSP; P00742; IYXA.  
 DR MEROPS; S01.216; -;  
 DR MGD; MGI:103107; F10.  
 DR GO; GO:0005576; C:extracellular; IEA.  
 DR GO; GO:0046821; C:extrachromosomal DNA; IEA.  
 DR GO; GO:0003804; F:blood coagulation factor X activity; IEA.  
 DR GO; GO:0005509; F:calcium ion binding; IEA.  
 DR GO; GO:0004263; F:chymotrypsin activity; IEA.  
 DR GO; GO:0008233; F:peptidase activity; IEA.  
 DR GO; GO:0004295; F:trypsin activity; IEA.  
 DR GO; GO:0006508; F:proteolysis and peptidolysis; IEA.  
 DR InterPro; IPR000152; Asx\_Hydroxyl\_S.  
 DR InterPro; IPR009003; Cys\_Ser\_Trypsin.  
 DR InterPro; IPR000742; EGF\_2.  
 DR InterPro; IPR001881; EGF\_Ca.  
 DR InterPro; IPR001438; EGF\_11.  
 DR InterPro; IPR006209; EGF\_like.  
 DR InterPro; IPR002383; GLA\_Blood.  
 DR InterPro; IPR001254; Peptidase\_S1.  
 DR InterPro; IPR001314; Peptidase\_S1A.  
 DR InterPro; IPR000294; VitK\_dep\_Gla.  
 DR Pfam; PF00008; EGF; 2.  
 DR Pfam; PF00594; gla; 1.  
 DR Pfam; PF00089; trypsin; 1.  
 DR PRINTS; PR00722; CHYMOTRYPSIN.  
 DR PRINTS; PR00010; EGFBLDOD.  
 DR PRINTS; PR00001; GLABLOOD.  
 DR SMART; SM00179; EGF CA; 1.  
 DR SMART; SM00069; gla; 1.  
 DR SMART; SM00020; TRYP SPC; 1.  
 DR PROSITE; PS00010; ASX HYDROXYL; 1.  
 DR PROSITE; PS00022; EGF\_1; 1.  
 DR PROSITE; PS01186; EGF\_2; 2.  
 DR PROSITE; PS01187; EGF CA; 1.  
 DR PROSITE; PS00011; GLUT CARBOXYLATION; 1.  
 DR PROSITE; PS00240; TRYPSIN DOM; 1.  
 DR PROSITE; PS00134; TRYPSIN\_HIS; 1.  
 DR PROSITE; PS00135; TRYPSIN\_SER; 1.  
 DR EGF-like domain; Hydrolase; Protease; Serine protease; Signal;  
 KM Plasmid.  
 FT SIGNAL 1 40  
 FT CHAIN 1 40  
 SQ SEQUENCE 481 AA; 53986 MW; CF702DE5EF9D97AB CRC64;

Query Match 34.1%; Score 793; DB 11; Length 481;  
 Best Local Similarity 36.4%; Pred. No. 1.6e-67;  
 Matches 162; Conservative 77; Mismatches 158; Indels 48; Gaps 9;

QY 1 ANSPLEELRHSSLERECIEICDFEAKETIFONVDDTLAFMSKRVDSGQCLVLPLEHPCA 60  
 DB 41 ANSFEEBKGNLRECEMEICSYEVRLEIFEDDEKTKYWKYKXGDCESP----- 94  
 QY 61 SLCCGHTCIDIGISFSCDGRSGWGRFQREVSFLNCSLDNGGCTHYCLEEVMRRCSC 120  
 DB 95 --CQNGACRGDIGYITCTCSGEGKNCLEFVRKL--CLDNGDCDQFCREQNSVVCSC 151  
 QY 121 AEGYKLGDDLLQCHPAVKPCGRPKMEKK-----RSLKRETD-----QEDQVDP----- 168  
 DB 152 ASGYFLGNDGKSCISTAPFCGKITTGRRKKSVALNTSDSLDELDALDEPLSTENP 211  
 QY 169 -----RLIDGKTRGDSFQWVLLDSKKKLAGAVLIHPSWVITA 209  
 DB 212 IELNLNETQPERSSDDVIRIVGRCCKDGCPCFQALLINENEGFCGCTILNEFYIITA 271  
 QY 210 AHCMDESKLLVRLGEYDLRMEKELDIKEVFNHNSKSTTDNDIALHLAQPATL 269



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RESULT 13
Q804X7 PRELIMINARY; PRT; 425 AA.
AC Q804X7;
DT 01-JUN-2003 (Tremblrel. 24, Created)
DT 01-JUN-2003 (Tremblrel. 24, Last sequence update)
DT 01-OCT-2003 (Tremblrel. 25, Last annotation update)
DE Coagulation factor VII precursor (EC 3.4.21.21).
GN F7.
OS Gallus gallus (Chicken).
OC Buthyria; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OX NCBI_TaxID=9031;
RN [1]
RP SEQUENCE FROM N.A.
RA Davidson C.J., Hirt R.P., Lai K., Snel P., Elgar G.,
RA Tuddenham E.G.D., McVey J.H.;
RT "Comparative sequence analysis and molecular evolution of blood
RT coagulation genes from Gallus gallus and Fugu rubripes.",
RL Submitted (JAN-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF465268; AAO33363.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0003802; F:blood coagulation factor VII activity; IEA.
DR GO; GO:0005509; F:calcium ion binding; IEA.
DR GO; GO:0004263; F:chymotrypsin activity; IEA.
DR GO; GO:0016787; F:hydrolase activity; IEA.
DR GO; GO:0004295; F:trypsin activity; IEA.
DR GO; GO:0006508; P:proteolysis and peptidolysis; IEA.
DR InterPro; IPR000152; Asx_hydroxyl_S.
DR InterPro; IPR009003; Cys_ser_trypsin.
DR InterPro; IPR000742; EGF_2.
DR InterPro; IPR001881; EGF_Ca.
DR InterPro; IPR001438; EGF_II.
DR InterPro; IPR006209; EGF_like.
DR InterPro; IPR002383; GLA_blood.
DR InterPro; IPR006210; IBCF.
DR InterPro; IPR001254; Peptidase_S1.
DR InterPro; IPR001314; Peptidase_S1A.
DR InterPro; IPR000294; VitK_dep_GLA.
DR Pfam; PF00008; EGF_2.
DR Pfam; PF00589; gla_1.
DR PRINTS; PR00722; CHYMOTRYPSIN.
DR PRINTS; PR00010; EGF_BLOOD.
DR PRINTS; PR00001; GLABLOOD.
DR SMART; SM00181; EGF_2.
DR SMART; SM00179; EGF_Ca; 1.
DR SMART; SM0069; GLA; 1.
DR SMART; SM00020; TYP_Spec; 1.
DR PROSITE; PS00010; ASX_HYDROXYL; 1.
DR PROSITE; PS00022; EGF_1; 1.
DR PROSITE; PS01186; EGF_2; 1.
DR PROSITE; PS01187; EGF_Ca; 1.
DR PROSITE; PS00011; GLUT_CARBOXYLATION; 1.
DR PROSITE; PS50240; TRYPSIN_DOM; 1.
DR PROSITE; PS00134; TRYPSIN_HIS; 1.
DR PROSITE; PS00135; TRYPSIN_SER; 1.
KW Hydrolase.
SQ
SEQUENCE 425 AA; 47626 MW; 36A69BFD86CDA6 CRC64;
Query Match 34.4%; Score 799.5; DB 13; Length 425;
Best Local Similarity 39.4%; Pred. No. 3,2e-68;
Matches 162; Conservative 72; Mismatches 146; Indels 31; Gaps 9;
QY 1 ANSFLERARSSIERCEETCDPEAKETFGVVDTLAEMSKHVGDDCLVLEPHCA 60
DB 41 ANSPFESIKLGPHERCEIBKCSFEAREKTYRDERKTFEMHISDPNOC-----DS 92
QY 61 SLCCGHGTCTIDIGSPSCCRSGWGRFCQREVSLFNCSLDNGGCTHYCLEVGMRR-C 118
DB 93 SPCCNGSCDDQPDQYVCRCPPEYEGKSGCTVAENLKCIDYNGGEGQCADEGSEKRV 152

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QY 119 SCAPGYKLDGDLLOCHPAVPCPGPWRMEKRSKSLKDTEDQEDQVDPRLIDGMTER 178
DB 153 FCAHEGALASDVGSCIPOVAYPGGTLPVLAANKNT-----AQGRIVGATCP 200
QY 179 GDSFQWVLLDSKKKALCAVLIHPGWTAAACMD-ESKLLVRLCEYDLRRMEKML 236
DB 201 GECFQWALIIQDQK-KCGGSLSPSEWVTAACHLDVAHKSQLRVRLCEYSVKAEKTRQ 259
QY 237 DLDKEVFHPVYSKSTTNDIALHQAPTLSQITVPCLPDSGLAERLNAQGETL 296
DB 260 ESGYSKIHBEETVGYVNDIALKLETPTNLTDFVPLCLPEKRFVVELSSTI-FESV 318
QY 297 VTGWSHSSREKAEKRRRTFVNFIKIPVPHNECSFWSMNSWSENLCAGLIDGRDQAC 356
DB 319 VSGWG---RLIDGASTLEMR-VHLPRVKTQCEKQANLNTENMCAGDLGKKDSC 373
QY 357 EGDGSGPMVASFHGTWFLVGVSWEGCGLLAHNYGVTYKVSRYLDMHIGHT 407
DB 374 KGDSGPHATKYKNTWFLTGIVSGKCAVEGSGYVTVRSRYINLKRHM 424
RESULT 14
Q88947 PRELIMINARY; PRT; 481 AA.
AC Q88947;
DT 01-NOV-1998 (Tremblrel. 08, Created)
DT 01-NOV-1998 (Tremblrel. 08, Last sequence update)
DT 01-OCT-2003 (Tremblrel. 25, Last annotation update)
DE Coagulation factor X precursor.
GN F10.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RA STRAIN=C57BL6 X CBA; TISSUE=Liver;
RX MEDLINE=98347933; PubMed=9684791;
RA Liang Z., Cooper A., Deford M.E., Carmeliet P., Collen D.,
RA Castellino F.J., Rosen E.D.;
RT "Cloning and characterization of a cDNA encoding murine coagulation
RT factor X.",
RL Thromb. Haemost. 80:87-91(1998).
RN [2]
RP SEQUENCE FROM N.A.
RA STRAIN=129Sv;
RA Cooper A., Liang Z., Castellino F.J., Rosen E.D.;
RT "Cloning and Characterization of the Murine Factor X Gene.",
RL Thromb. Haemost. 0:0-0(2000).
CC -1- SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1.
DR EMBL; AF087644; AAC6345.1; -.
DR EMBL; AF211347; AAF22980.1; -.
DR HSSP; P00742; IXKA.
DR MEROPS; S01.216; -.
DR MED; MGI:103107; F10.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005509; F:calcium ion binding; IEA.
DR GO; GO:0004263; F:chymotrypsin activity; IEA.
DR GO; GO:0008233; F:peptidase activity; IEA.
DR GO; GO:0004295; F:trypsin activity; IEA.
DR GO; GO:0006508; P:proteolysis and peptidolysis; IEA.
DR InterPro; IPR000152; Asx_hydroxyl_S.
DR InterPro; IPR009003; Cys_ser_trypsin.
DR InterPro; IPR00742; EGF_2.
DR InterPro; IPR001881; EGF_Ca.
DR InterPro; IPR001438; EGF_II.
DR InterPro; IPR006209; EGF_like.
DR InterPro; IPR002383; GLA_blood.
DR InterPro; IPR001254; Peptidase_S1.
DR InterPro; IPR001314; Peptidase_S1A.
DR InterPro; IPR000294; VitK_dep_GLA.
DR Pfam; PF00008; EGF_2.

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OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.  
 OX NCBI\_TaxID=9606;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA Kinoshita S., Iida H., Inoue S., Watanabe K., Kurihara M., Wada Y.,  
 RA Ono M., Dongchon K., Hamaaki N.;  
 RT "Gene Analysis of Anticoagulation Factors in Japanese Thrombotic  
 Patients: Genetic Background of Thrombophilia in Japan."  
 RL Submitted (Apr-2002) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; AB083690; BAC21165.1; -  
 DR GO; GO:0004263; F:chymotrypsin activity; IEA.  
 DR GO; GO:0004295; F:trypsin activity; IEA.  
 DR GO; GO:0006508; P:proteolysis and peptidolysis; IEA.  
 DR InterPro; IPR009003; Cys\_Ser trypsin.  
 DR InterPro; IPR001254; Peptidase\_S1.  
 DR InterPro; IPR001314; Peptidase\_S1A.  
 DR Pfam; PF00089; trypsin; 1.  
 DR PRINTS; PR00722; CHYMOTRYPSIN.  
 DR SMART; SM00020; TRYP\_SPE; 1.  
 DR PROSITE; PS0240; TRYP\_SIN\_DOM; 1.  
 DR PROSITE; PS00135; TRYP\_SIN\_SER; 1.  
 FT NON\_TER 1  
 FT NON\_TER 1  
 SQ SEQUENCE 211 AA; 23315 MW; 9D114B6D7FF5A9AB CRC64;  
 Query Match 39.9%; Score 927; DB 4; Length 211;  
 Best Local Similarity 95.1%; Pred. No. 6.7e-81;  
 Matches 173; Conservative 1; Mismatches 6; Indels 2; Gaps 1;  
 QY 225 EYDLRWEKWEKLDIDKEVFAHFNYSKSTTDNDIALHIAQAPATISQITVPCIPDSGLA 284  
 DB 1 EYDLRWEKWEKLDIDKEVFAHFNYSKSTTDNDIALHIAQAPATISQITVPCIPDSGLA 60  
 QY 285 EREINQAGETLVYMGWGHSSRREKRRKRRFPVNFKIPVPHNECEVSNVSENNL 344  
 DB 61 EREINQAGETLVYMGWGHSSRREKRRKRRFPVNFKIPVPHNECEVSNVSENNL 120  
 QY 345 CAGILGRDADCEGSDGPGWVAFHGTFMFLVGLVSMGEGCGLLHNYGVYTK-VSRYLDM 402  
 DB 121 CAGILGRDADCEGSDGPGWVAFHGTFMFLVGLVSMGEGCGLLHNYGVYTKVSRYLDM 180  
 QY 403 IH 404  
 DB 181 AH 182  
 RESULT 12  
 Q63207 PRELIMINARY; PRT; 482 AA.  
 AC Q63207;  
 DT 01-NOV-1996 (TrEMBLrel. 01. Created)  
 DT 01-NOV-1996 (TrEMBLrel. 01. Last sequence update)  
 DT 01-OCT-2003 (TrEMBLrel. 25. Last annotation update)  
 DE Factor X.  
 OS Rattus norvegicus (Rat).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.  
 OX NCBI\_TaxID=10116;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA STRAIN-Sprague-Dawley;  
 RA MEDLINE=96093366; PubMed=8578539;  
 RA Stanton C., Rose R.P., Hutson S., Wallin R.;  
 RT "Evidence for competition between vitamin K-dependent clotting factors  
 for intracellular processing by the vitamin K-dependent gamma-  
 carboxylase."  
 RL Thromb. Res. 80:63-73 (1995).  
 CC -1- SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1.  
 DR EMBL; X79807; CAA56202.1; -  
 DR PIR; S49075; EXRT.  
 DR HSSP; P00742; 1XKA.

DR MEROPS; S01.216; -  
 DR GO; GO:0005576; C:extracellular; IEA.  
 DR GO; GO:0005509; F:calcium ion binding; IEA.  
 DR GO; GO:0004263; F:chymotrypsin activity; IEA.  
 DR GO; GO:0008233; F:peptidase activity; IEA.  
 DR GO; GO:0004295; F:trypsin activity; IEA.  
 DR GO; GO:0006508; P:proteolysis and peptidolysis; IEA.  
 DR InterPro; IPR000152; Asx\_Hydroxyl\_S.  
 DR InterPro; IPR009003; Cys\_Ser trypsin.  
 DR InterPro; IPR000742; EGF\_2.  
 DR InterPro; IPR001881; EGF\_CA.  
 DR InterPro; IPR001438; EGF\_CA.  
 DR InterPro; IPR006209; EGF\_like.  
 DR InterPro; IPR002383; GLA\_blood.  
 DR InterPro; IPR001254; Peptidase\_S1.  
 DR InterPro; IPR001314; Peptidase\_S1A.  
 DR InterPro; IPR000294; VitK\_dep\_GLA.  
 DR Pfam; PF00008; EGF\_2.  
 DR Pfam; PF00594; gla; 1.  
 DR Pfam; PF00089; trypsin; 1.  
 DR PRINTS; PR00722; CHYMOTRYPSIN.  
 DR PRINTS; PR00010; EGF\_blood.  
 DR PRINTS; PR00001; GLABLOOD.  
 DR SMART; SM00179; EGF\_CA; 1.  
 DR SMART; SM00069; GLA; 1.  
 DR SMART; SM00020; TRYP\_SPE; 1.  
 DR PROSITE; PS00010; ASX\_HYDROXYL; 1.  
 DR PROSITE; PS00022; EGF\_1; 1.  
 DR PROSITE; PS01186; EGF\_2; 2.  
 DR PROSITE; PS01187; EGF\_CA; 1.  
 DR PROSITE; PS00011; GLUT\_CARBOXYLATION; 1.  
 DR PROSITE; PS50240; TRYP\_SIN\_DOM; 1.  
 DR PROSITE; PS00134; TRYP\_SIN\_HIS; 1.  
 DR PROSITE; PS00135; TRYP\_SIN\_SER; 1.  
 KW EGF-like domain; Hydrolase; Protease; Serine protease.  
 SQ SEQUENCE 482 AA; 54265 MW; 0284678E354A698 CRC64;  
 Query Match 35.2%; Score 818.5; DB 11; Length 482;  
 Best Local Similarity 37.0%; Pred. No. 5.6e-70;  
 Matches 165; Conservative 79; Mismatches 153; Indels 49; Gaps 8;  
 QY 1 ANSFLERLHSSLEKCTEETCFEEAKELFQVVDLTAFMSKHVGDQVLPLEHCA 60  
 DB 41 ANSFLERLHSSLEKCTEETCFEEAKELFQVVDLTAFMSKHVGDQVLPLEHCA 94  
 QY 61 SLCCGHTCIDG:IGSPDCRSWGMRFCQREVSFLNCSLDNGCTHYCLEEVMRRCS 120  
 DB 95 --CQNGECRCDLGGSYTCTCTGTEGFEKNCGLFYKRL-CSLDNGCQDFREQNSVCS 151  
 QY 121 AFGYLDLIDLCCHPAVKEPFGGRPKMKMEKK-----RSHLKRDTEDQEDV----- 167  
 DB 152 AKGYFLANDKSCLSAPPGCKTNKGRAKRSVALNTSNSPEEDLMPDADILYPESP 211  
 QY 168 -----PRLIDKMTNRGDSFMQVVL-DSSKCLACAVLIHPSWLT 208  
 DB 212 SELLNANKTEPPANSDVYRIVGQCEKRGCPWQALLFSBEIDFGCGTIANFYLT 271  
 QY 209 AANCMDSKLLVILGENDLRMEKWEKLDIDKEVFAHFNYSKSTTDNDIALHIAQAPAT 268  
 DB 272 AANCLHQAQKRFYRVGDNTEQDGEHVEVDMIIKANKRQRTYDFDIAMLRKTPIT 331  
 QY 263 LSGTIVPLCLPDSGLAREINQAGET-LVYMGWGHSSRREKRRKRRFPVNFKIPV 327  
 DB 332 FRENVAAPCLPQKDWENTL-KTQKTGVISGGRTHKGRQSK-----VLKMEVPTVD 384  
 QY 328 HNECEVSNVSENNLCAGILGRDADCEGSDGPGWVAFHGTFMFLVGLVSMGEGCGIL 387  
 DB 385 RNTCLSLSSISITQNNFCAGYDAKQEDACGSDGPGHTRPKDYFTVGLVSMGEGCARX 444  
 QY 388 HNYGVYTKVSRVYDWTGHIRKAP 413  
 DB 445 GKGYITKVTAFILKWDISMARVGP 470

RESULT 9  
 ID 081XB4 PRELIMINARY; PRT; 195 AA.  
 AC 081XB4;  
 DT 01-MAR-2003 (TREMblrel. 23, Created)  
 DT 01-MAR-2003 (TREMblrel. 23, Last sequence update)  
 DT 01-OCT-2003 (TREMblrel. 25, Last annotation update)  
 DE Protein C (Fragment).  
 GN PROCT.  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominiidae; Homo.  
 NC NCB1\_Taxid=9606;  
 RX NCB1\_Taxid=9606;  
 RP SEQUENCE FROM N.A.  
 RA Kinoshta S., Iida H., Inoue S., Matanabe K., Kurihara M., Wada Y.,  
 RA Ono M., Dongchon K., Hamasaki N.;  
 RT "Gene Analysis of Anticoagulation Factors in Japanese Thrombotic  
 Patients. Genetic Background of Thrombophilia in Japan."  
 RL Submitted (JUN-2002) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; AB086852; BAC54280.1; -  
 DR GO; GO:0004263; F:chymotrypsin activity; IEA.  
 DR GO; GO:0004295; F:trypsin activity; IEA.  
 DR GO; GO:0006508; P:proteolysis and peptidolysis; IEA.  
 DR InterPro; IPR009003; Cys Ser trypsin.  
 DR InterPro; IPR001254; Peptidase S1.  
 DR InterPro; IPR001314; Peptidase\_S1A.  
 DR Pfam; PF00089; trypsin; 1.  
 DR PRINTS; PR00722; CHYMOTRYPsin.  
 DR SMART; SM00020; TRYp\_SPC; 1.  
 DR PROSITE; PS00240; TRYPSIN\_DOM; 1.  
 DR PROSITE; PS00135; TRYPSIN\_SER; 1.  
 FT NON\_TER 1 1  
 SQ SSQDNCE 195 AA; 22016 MW; 9873861042C998D7 CRC64;  
 Query Match 45.6%; Score 1059; DB 4; Length 195;  
 Best local Similarity 99.5%; Pred. No. 1,2e-93;  
 Matches 194; Conservative 0; Mismatches 1; Indels 0; Gaps 0;  
 QY 225 EVDLRKMKELDLDIKEVFNHYSTNDNDIALLAQAPALTSCITVPCIPDGLA 284  
 DB 1 EVDLRKMKELDLDIKEVFNHYSTNDNDIALLAQAPALTSCITVPCIPDGLA 60  
 QY 285 EELNAGQETLVYTGNGYSSREKAKRNTFVNFIRKIPVPHNECEVMSNMVSENL 344  
 DB 61 EELNAGQETLVYTGNGYSSREKAKRNTFVNFIRKIPVPHNECEVMSNMVSENL 120  
 QY 345 CAGILGRDACEGDSGGPMVASFHGTWFLVGLVSGEGCGILHNTGVTYKSYRLDWIH 404  
 DB 121 CAGILGRDACEGDSGGPMVASFHGTWFLVGLVSGEGCGILHNTGVTYKSYRLDWIH 180  
 QY 405 GHTRKAPKQKSNAP 419  
 DB 181 GHTRKAPKQKSNAP 195  
 RESULT 10  
 ID 0773B6 PRELIMINARY; PRT; 434 AA.  
 AC 0773B6;  
 DT 01-OCT-2003 (TREMblrel. 25, Created)  
 DT 01-OCT-2003 (TREMblrel. 25, Last sequence update)  
 DT 01-OCT-2003 (TREMblrel. 25, Last annotation update)  
 DE Hypothetical protein.  
 OS Brachydanio rerio (Zebrafish) (Danio rerio).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;  
 OC Cyprinidae; Danio.  
 NC NCB1\_Taxid=7955;  
 RX NCB1\_Taxid=7955;  
 RP SEQUENCE FROM N.A.

RC TISSUE=Kidney;  
 RX MEDLINE=22388257; PubMed=12477932;  
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,  
 RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,  
 RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,  
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,  
 RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,  
 RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Schetz T.E.,  
 RA Brownstein M.J., Ueda T.B., Toshitsuki S., Carinot P., Prange C.,  
 RA Raba S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullaney S.J.,  
 RA Bosak S.A., McKernan K.J., Malek J.A., Gunaratne P.H.,  
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,  
 RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,  
 RA Fahey J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A.,  
 RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,  
 RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,  
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,  
 RA Krzywinski M.I., Skalka U., Smallos D.E., Scherch A., Schein J.E.,  
 RA Jones S.J., Maitra M.A.;  
 RT "Generation and initial analysis of more than 15,000 full-length human  
 and mouse cDNA sequences."  
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Kidney;  
 RA Strausberg R.;  
 RL Submitted (JUN-2003) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; BC053182; AAH53182.1; -  
 KW Hypothetical protein.  
 SQ SEQUENCE 434 AA; 48516 MW; B47BD7947CF9D9C9 CRC64;  
 Query Match 42.0%; Score 975.5; DB 13; Length 434;  
 Best local Similarity 45.1%; Pred. No. 3.7e-85;  
 Matches 189; Conservative 70; Mismatches 131; Indels 29; Gaps 6;  
 QY 1 ANSPLEERSSRECEIEICDFEBAKEIFONVDDTLAFMSKAVDGDQCLVPLEHCA 60  
 DB 40 ANSPLEERSSRECEIEICDFEBAKEIFONVDDTLAFMSKAVDGDQCLVPLEHCA 93  
 QY 61 SLCCGHTGTCIDIGSFCDCRSWEGRFQREVSFNGSLDNGCTHYCLEYGV--RRC 118  
 DB 94 ---CVHGKCVLLDQDSCFCDCSGFEKCHDLRTATNCGLNNGCHDHCHESKDIARTC 150  
 QY 119 SCAPGYKIGDLIQCIPAYKFCGPKMKEMKRSILKEDTEDQEDVDRLDGGKTR 178  
 DB 151 SCIKGYQLDMSRCPCPKNDASCGQ--IRPKSAVANK----PQVLOPWWGVGVGR 203  
 QY 179 GDSPMQVLLDSKKKLACGAVLIHPSWVLTAAQCMDESKLLVRLGEYDURKMKELDL 238  
 DB 204 GESPMQVLLDSKKKLACGAVLIHPSWVLTAAQCMDESKLLVRLGEYDURKMKELDL 263  
 QY 239 DLEVFNHNSKSTTDNDIALHIAQAPALTSCITVPCIPDGLARBLNAGQETLV 298  
 DB 264 PVKQIHSHPOYNPIYVDNDIALRLDGVKFSYIIIPACLPSELARKMLHRRGVTYIT 323  
 QY 299 GWGYSSEKAKRNTFVNFIRKIPVPHNECEVMSNMVSENL CAGILGRDACEG 358  
 DB 324 GWG----KNGSATSYSTIHYELPIYDNKESRRMMNLSNMLCAGILGRDACEG 379  
 QY 359 DSGGPMVASFHGTWFLVGLVSGEGCGILHNTGVTYKSYRLDWIHGHTRKAPKSN 417  
 DB 380 DSGGPMVASFHGTWFLVGLVSGEGCGILHNTGVTYKSYRLDWI-----DSVRCQM 431  
 RESULT 11  
 ID 08J009 PRELIMINARY; PRT; 211 AA.  
 AC 08J009;  
 DT 01-MAR-2003 (TREMblrel. 23, Created)  
 DT 01-MAR-2003 (TREMblrel. 23, Last sequence update)  
 DT 01-OCT-2003 (TREMblrel. 25, Last annotation update)  
 DE Protein C (Fragment).  
 GN PROC.

DR EMBL; AB083693; BAC21166.1; -  
DR GO; GO:0004263; F:chymotrypsin activity; IEA.  
DR GO; GO:0004295; F:trypsin activity; IEA.  
DR GO; GO:0006508; P:proteolysis and peptidolysis; IEA.  
DR InterPro; IPR009003; Cys\_Ser\_trypsin.  
DR InterPro; IPR001254; Peptidase\_S1.  
DR InterPro; IPR001314; Peptidase\_S1A.  
DR Pfam; PF00089; trypsin; 1.  
DR PRINTS; PR00722; CHYMOTRYPSIN.  
DR SMART; SM00020; TRYPSIN; 1.  
DR PROSITE; PS0240; TRYPSIN\_DOM; 1.  
DR PROSITE; PS00135; TRYPSIN\_SER; 1.  
FT NON TER 1  
SQ SEQUENCE 195 AA; 21986 MW; F1BC49C227CEB8C6 CRC64;  
  
Query Match 45.7%; Score 1063; DB 4; Length 195;  
Best Local Similarity 99.5%; Pred. No. 4.8e-94;  
Matches 194; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
  
Db 225 EYDLRRMEKELDLIDKEVFPVHPNYSKSTTDNDIALHLAQPATLSQTIPTICLPDSGLA 284  
1 EYDLRRMEKELDLIDKEVFPVHPNYSKSTTDNDIALHLAQPATLSQTIPTICLPDSGLA 60  
  
QY 285 ERELNAQGEITLVGWSHSSREKEAKNRFTVFNFIKIPVVPNECSGVMSNVSNNL 344  
61 ERELNAQGEITLVGWSHSSREKEAKNRFTVFNFIKIPVVPNECSGVMSNVSNNL 120  
  
Db 345 CAGLIGDRQDACEGSGPVMVAFHGTFVLGWSGCGLLHNYGYTKSRYLDMIH 404  
121 CAGLIGDRQDACEGSGPVMVAFHGTFVLGWSGCGLLHNYGYTKSRYLDMIH 180  
  
QY 405 GHIRDEAPQKSNAP 419  
181 GHIRDEAPQKSNAP 195  
  
Db 181 GHIRDEAPQKSNAP 195  
  
RESULT 7  
QY 08J007 PRELIMINARY; PRT; 195 AA.  
ID 08J007  
AC 08J007;  
DT 01-MAR-2003 (TREMBlrel. 23, Created)  
DT 01-MAR-2003 (TREMBlrel. 23, Last sequence update)  
DT 01-OCT-2003 (TREMBlrel. 25, Last annotation update)  
DE Protein C (Fragment).  
GN PROC.  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.  
OX NCBI\_TaxID=9606;  
RN [1]  
RP SEQUENCE FROM N.A.  
RA Kinoshita S., Iida H., Inoue S., Matanabe K., Kurihara M., Wada Y.,  
"Gene Analysis of Anticoagulation Factors in Japanese Thrombotic  
Patients. Genetic Background of Thrombophilia in Japan."  
Submitted (APR-2002) to the EMBL/GenBank/DBJ databases.  
RL EMBL; AB083695; BAC21167.1; -  
DR GO; GO:0004263; F:chymotrypsin activity; IEA.  
DR GO; GO:0004295; F:trypsin activity; IEA.  
DR GO; GO:0006508; P:proteolysis and peptidolysis; IEA.  
DR InterPro; IPR009003; Cys\_Ser\_trypsin.  
DR InterPro; IPR001254; Peptidase\_S1.  
DR InterPro; IPR001314; Peptidase\_S1A.  
DR Pfam; PF00089; trypsin; 1.  
DR PRINTS; PR00722; CHYMOTRYPSIN.  
DR SMART; SM00020; TRYPSIN; 1.  
DR PROSITE; PS0240; TRYPSIN\_DOM; 1.  
DR PROSITE; PS00135; TRYPSIN\_SER; 1.  
FT NON TER 1  
SQ SEQUENCE 195 AA; 22018 MW; E5E817911DC998C6 CRC64;  
  
Query Match 45.7%; Score 1062; DB 4; Length 195;  
Best Local Similarity 99.5%; Pred. No. 6e-94;  
Matches 194; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Matches 194; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
  
QY 225 EYDLRRMEKELDLIDKEVFPVHPNYSKSTTDNDIALHLAQPATLSQTIPTICLPDSGLA 284  
1 EYDLRRMEKELDLIDKEVFPVHPNYSKSTTDNDIALHLAQPATLSQTIPTICLPDSGLA 60  
  
QY 285 ERELNAQGEITLVGWSHSSREKEAKNRFTVFNFIKIPVVPNECSGVMSNVSNNL 344  
61 ERELNAQGEITLVGWSHSSREKEAKNRFTVFNFIKIPVVPNECSGVMSNVSNNL 120  
  
Db 345 CAGLIGDRQDACEGSGPVMVAFHGTFVLGWSGCGLLHNYGYTKSRYLDMIH 404  
121 CAGLIGDRQDACEGSGPVMVAFHGTFVLGWSGCGLLHNYGYTKSRYLDMIH 180  
  
QY 405 GHIRDEAPQKSNAP 419  
181 GHIRDEAPQKSNAP 195  
  
Db 181 GHIRDEAPQKSNAP 195  
  
RESULT 8  
QY 08J006 PRELIMINARY; PRT; 195 AA.  
ID 08J006  
AC 08J006;  
DT 01-MAR-2003 (TREMBlrel. 23, Created)  
DT 01-MAR-2003 (TREMBlrel. 23, Last sequence update)  
DT 01-OCT-2003 (TREMBlrel. 25, Last annotation update)  
DE Protein C (Fragment).  
GN PROC.  
OS Homo sapiens (human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.  
OX NCBI\_TaxID=9606;  
RN [1]  
RP SEQUENCE FROM N.A.  
RA Kinoshita S., Iida H., Inoue S., Matanabe K., Kurihara M., Wada Y.,  
"Gene Analysis of Anticoagulation Factors in Japanese Thrombotic  
Patients. Genetic Background of Thrombophilia in Japan."  
Submitted (APR-2002) to the EMBL/GenBank/DBJ databases.  
RL EMBL; AB083696; BAC21168.1; -  
DR GO; GO:0004263; F:chymotrypsin activity; IEA.  
DR GO; GO:0004295; F:trypsin activity; IEA.  
DR GO; GO:0006508; P:proteolysis and peptidolysis; IEA.  
DR InterPro; IPR009003; Cys\_Ser\_trypsin.  
DR InterPro; IPR001254; Peptidase\_S1.  
DR InterPro; IPR001314; Peptidase\_S1A.  
DR Pfam; PF00089; trypsin; 1.  
DR PRINTS; PR00722; CHYMOTRYPSIN.  
DR SMART; SM00020; TRYPSIN; 1.  
DR PROSITE; PS0240; TRYPSIN\_DOM; 1.  
DR PROSITE; PS00135; TRYPSIN\_SER; 1.  
FT NON TER 1  
SQ SEQUENCE 195 AA; 22016 MW; F1B818C11386CC6 CRC64;  
  
Query Match 45.6%; Score 1059; DB 4; Length 195;  
Best Local Similarity 99.5%; Pred. No. 1.2e-93;  
Matches 194; Conservative 0; Mismatches 1; Indels 0; Gaps 0;  
  
QY 225 EYDLRRMEKELDLIDKEVFPVHPNYSKSTTDNDIALHLAQPATLSQTIPTICLPDSGLA 284  
1 EYDLRRMEKELDLIDKEVFPVHPNYSKSTTDNDIALHLAQPATLSQTIPTICLPDSGLA 60  
  
QY 285 ERELNAQGEITLVGWSHSSREKEAKNRFTVFNFIKIPVVPNECSGVMSNVSNNL 344  
61 ERELNAQGEITLVGWSHSSREKEAKNRFTVFNFIKIPVVPNECSGVMSNVSNNL 120  
  
Db 345 CAGLIGDRQDACEGSGPVMVAFHGTFVLGWSGCGLLHNYGYTKSRYLDMIH 404  
121 CAGLIGDRQDACEGSGPVMVAFHGTFVLGWSGCGLLHNYGYTKSRYLDMIH 180  
  
QY 405 GHIRDEAPQKSNAP 419  
181 GHIRDEAPQKSNAP 195  
  
Db 181 GHIRDEAPQKSNAP 195

DR PROSITE; P500134; TRYPSIN\_HIS; 1.  
 DR PROSITE; P500135; TRYPSIN\_SER; 1.  
 KW Hydrolase.  
 SQ SEQUENCE 433 AA; 48689 MW; E09DDE56D7DA23 CRC64;

Query Match 49.2%; Score 1143.5; DB 13; Length 433;  
 Best Local Similarity 52.0%; Pred. No. 2,4e-101;  
 Matches 216; Conservative 57; Mismatches 115; Indels 29; Gaps 5;

QY 1 ANSFLEELRHSSLEKCEIEICDPEFAKEIFQVNDTLAFMSKHYDGGCLVPLEHPCA 60  
 DB 40 ANSFLEELKPGSVREKCNPEASEIFEYEALETFMSKYVDGQCAQKP----- 93  
 QY 61 SLCCGHGTCIDIGTSFSCDCRSWGRGRCQSEVSLNCGGCTHYCLEEYG--WRRC 118  
 DB 94 ---CSNGACQKNISYSYSCIDCKWEGACQENYKNSGVNDGCGHCEADYKQCRYC 150  
 QY 119 SCAPGYKLGDDLLQCHPAVYPCGRPWKMEKRSKSHLKDTEDQVDPRLIDGMQR 178  
 DB 151 SCASGYQLTNDHNMCTPVVEFPGR-----VNDYEGKAEFNRLLIGNSGGR 199  
 QY 179 GDSPPQVYLLDSKKKLAGAVLIHPSWVLTAAHCDMSKLLVRLGEYDLRMEKELD 238  
 DB 200 GFSPPVYVYLLQKGFVLCGGVLIHPSWVLTAAHCEVGETLVRLGKXHLRENSQRT 259  
 QY 239 DICEVFNPNYSKSTNDIALHLAQPATLSQTIPTICLPDGLARELNQAGQETVLT 298  
 DB 260 RVKRYVHNVTYKLRSDNDIAMLHLEPVMYKALPTICLPDGLARELNQAGQETVLT 319  
 QY 299 GNGYSSREKEAKRNTFVLFKIPVYPHNECSEVSNMSENNLCAGILGDRDACEG 358  
 DB 320 GNGSTS---DEMRYVSLSTYIEIPVYKQECQVMTNTISDNMLCAGSLGRKDCSG 375  
 QY 359 DSGGPMVASFHTWFLVGLVSGEGCLLNNYGVYTVSRYLDMHGHIRKXEPQSW 417  
 DB 376 DSGGPMVATKYKDTWFLVGLVSGEGCGKKEKRGVYTVSRYLEWIOHINKSG---SW 431

## RESULT 5

Q7SY86 PRELIMINARY; PRT; 455 AA.  
 ID Q7SY86;  
 AC Q7SY86;  
 DT 01-OCT-2003 (TRENBLREL. 25, Created)  
 DT 01-OCT-2003 (TRENBLREL. 25, Last sequence update)  
 DT 01-OCT-2003 (TRENBLREL. 25, Last annotation update)  
 DB Hypothetical protein.  
 OS Xenopus laevis (African clawed frog).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 CC Amphibia; Batrachia; Anura; Mesobatrachia; Pipridae; Pipidae;  
 OC Xenopodidae; Xenopus.  
 NC NCBI\_Taxid=8355;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Whole;  
 RX MEDLINE=22341132; PubMed=12454917;  
 RA Klein S.L., Strausberg R.L., Wagner L., Pontius J., Clifton S.W.,  
 Richardson P.,  
 "Genetic and genomic tools for Xenopus research: The NIH Xenopus  
 RT Initiative";  
 RL Dev. Dyn. 225:384-391(2002).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Whole;  
 RX MEDLINE=22388257; PubMed=12477932;  
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,  
 Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,  
 Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,  
 Hopkins R.F., Jordan H., Moore T., Max S.I., Wang Y., Hsieh F.,  
 Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,  
 Sapien L., Searles M.B., Bonaldo M.F., Casavant T.L., Scheetz T.B.,  
 Brownstein M.J., Ustin T.B., Yoshiki S., Abramson R.D., Mallya S.J.,  
 Raha S.S., Loughran N.A., Peters G.J., Abramson R.D., Mallya S.J.,  
 Bosak S.A., McKean P.J., McKean K.J., Malek J.A., Gunaratne P.H.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulik S.W.,  
 RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,  
 RA Fahy J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A.,  
 RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,  
 RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,  
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,  
 RA Krzywinski M.I., Skalska U., Smalls D.B., Schmechel A., Schein J.E.,  
 RA Jones S.J., Marra M.A.,  
 RT "Generation and initial analysis of more than 15,000 full-length human  
 and mouse cDNA sequences";  
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).  
 RN [3]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Whole;  
 RX Submitted (JUL-2003) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; BC054968; AAH54968.1; -  
 KW Hypothetical protein.  
 SQ SEQUENCE 455 AA; 51811 MW; 07C027EDB495330 CRC64;

Query Match 48.8%; Score 1134.5; DB 13; Length 455;  
 Best Local Similarity 51.7%; Pred. No. 1.9e-100;  
 Matches 216; Conservative 59; Mismatches 112; Indels 31; Gaps 5;

QY 1 ANSFLEELRHSSLEKCEIEICDPEFAKEIFQVNDTLAFMSKHYDGGCLVPLEHPCA 60  
 DB 49 AFNFMELKPGSVREKCNPEASEIFEYEALETFMSKYVDGQCAQKP----- 102  
 QY 61 SLCCGHGTCIDIGTSFSCDCRSWGRGRCQSEVSLNCGGCTHYCLEEYG--WRRC 118  
 DB 103 ---CVNNECKDGIQGRDTCNEHNEGRVYVSNCSLNNCGSHFPTQPMNSTRV 159  
 QY 119 SCAPGYKLGDDLLQCHPAVYPCGRPWKMEKRSKSHLKDTEDQVDPRLIDGMQR 178  
 DB 160 SCATGYQLDHDHNTQPVVEFPGR-----SKIVDYVNAARLIGAKQGRK 204  
 QY 179 GDSPPQVYLLDSKKKLAGAVLIHPSWVLTAAHCDMSKLLVRLGEYDLRMEKELD 238  
 DB 205 GDTPMQ--AMLRKPKKCGVLIHPSWVLTAAHCEVGETLVRLGKXHLRENSQRT 263  
 QY 239 DICEVFNPNYSKSTNDIALHLAQPATLSQTIPTICLPDGLARELNQAGQETVLT 298  
 DB 264 AVKTIHPEYRSDNDIALHLVQPVYVYKYLPTICLPDGLARELNQAGQETVLT 323  
 QY 299 GNGYSSREKEAKRNTFVLFKIPVYPHNECSEVSNMSENNLCAGILGDRDACEG 358  
 DB 324 GNG---REDEKALNFSYVSTYIOIPVSHNCAETLNDRLSDMLCAGRLHIDQACG 379  
 QY 359 DSGGPMVASFHTWFLVGLVSGEGCLLNNYGVYTVSRYLDMHGHIRKXEPQSW 416  
 DB 380 DSGGPMVATKYKGSWFLVGLVSGEGCGRINNFGVYTVSRYLEWIOHINKSG---SW 437

## RESULT 6

Q87008 PRELIMINARY; PRT; 195 AA.  
 ID Q87008;  
 AC Q87008;  
 DT 01-MAR-2003 (TRENBLREL. 23, Created)  
 DT 01-MAR-2003 (TRENBLREL. 23, Last sequence update)  
 DT 01-OCT-2003 (TRENBLREL. 25, Last annotation update)  
 DB PROC.  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 CC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.  
 NC NCBI\_Taxid=9606;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC Kinosita S., Iida H., Inoue S., Watanabe K., Kurihara M., Wada Y.,  
 RA Ono M., Dongchon K., Hamaeaki N.,  
 RT "Gene Analysis of Anticoagulation Factors in Japanese Thrombotic  
 Patients: Genetic Background of Thrombophilia in Japan";  
 RL Submitted (APR-2002) to the EMBL/GenBank/DBJ databases.

DB 400 DSGPMVVFPGTWFLVGLVSMGEGCGHTNNYGYTKVGSYLKMHSTYIGEKVSLKS 457

## RESULT 3

ID 099PC6 PRELIMINARY; PRT; 460 AA.

AC 099PC6;

DT 01-JUN-2001 (Tremblrel. 17, Created)

DT 01-JUN-2001 (Tremblrel. 17, Last sequence update)

DT 01-OCT-2003 (Tremblrel. 25, Last annotation update)

DE Anticoagulant protein C.

GN PROC.

OS Mus musculus (Mouse).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

OX NCBI\_TaxID=10090;

RN [1]

RP SEQUENCE FROM N.A.

RC STRAIN=C57BL;

RA Korf I.;

RT "Complete sequence of UC72A01."

RL Submitted (NOV-2000) to the EMBL/GenBank/DBJ databases.

CC -1- SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1.

DR EMBL; AF318182; AAK07918.1; -

DR HSSP; P04070; 1AUT.

DR MED; MG1:97771; Proc.

DR GO; GO:0005576; C:extracellular; IEA.

DR GO; GO:0005509; F:calcium ion binding; IEA.

DR GO; GO:0004263; F:chymotrypsin activity; IEA.

DR GO; GO:0008233; F:peptidase activity; IEA.

DR GO; GO:0004295; F:trypsin activity; IEA.

DR GO; GO:0006508; P:proteolysis and peptidolysis; IEA.

DR InterPro; IPR000152; Asx\_hydroxyl\_S.

DR InterPro; IPR009003; Cys\_Ser\_trypsin.

DR InterPro; IPR001881; EGF\_Ca.

DR InterPro; IPR006209; EGF\_like.

DR InterPro; IPR002383; GLA\_blood.

DR InterPro; IPR001354; Peptidase\_S1.

DR InterPro; IPR000294; VitK\_dep\_GLA.

DR Pfam; PF00008; EGF\_2.

DR Pfam; PF00594; gla; 1.

DR Pfam; PF00089; trypsin; 1.

DR PRINTS; PR00722; CHYMOTRYPSIN.

DR PRINTS; PR00001; GLABLOOD.

DR SMART; SM00179; EGF\_Ca; 1.

DR SMART; SM00069; GLA; 1.

DR SMART; SM00020; TYP\_Spc; 1.

DR PROSITE; PS00010; ASX\_HYDROXYL; 1.

DR PROSITE; PS00022; EGF\_1; 1.

DR PROSITE; PS01186; EGF\_2; 2.

DR PROSITE; PS01187; EGF\_Ca; 1.

DR PROSITE; PS00011; GLU\_CARBOXYLATION; 1.

DR PROSITE; PS00240; TRYPSIN\_DOM; 1.

DR PROSITE; PS00134; TRYPSIN\_HIS; 1.

DR PROSITE; PS00135; TRYPSIN\_SER; 1.

DR EGF-like domain; Hydrolase; Protease; Serine protease.

KW EGF-like domain; Hydrolase; Protease; Serine protease.

SEQUENCE 460 AA; 51784 MM; 0293BC5BDEDED6 CRC64;

Query Match 70.1%; Score 1629; DB 11; Length 460;

Best Local Similarity 69.6%; Pred. No. 4,7e-148;

Matches 291; Conservative 55; Mismatches 68; Indels 4; Gaps 3;

DB 1 ANSTLEHSHSLRECEETECDFEAKKIFQNVDDTLAFMSKRVGDDCLVLEHPCA 60  
DB 42 ANSTLEHSHSLRECEETECDFEAKKIFQNVDDTLAFMSKRVGDDCLVLEHPCA 101  
DB 61 SLCCGHGTICDIGSGFSCDCRSQWEGFPCQREVSFLNCSLDNGGCTHYCLEEVGRRCSG 120  
DB 102 SPCCGHGTICDIGSGFSCDCRSQWEGFPCQREVSFLNCSLDNGGCTHYCLEEVGRRCSG 161  
DB 121 APGKLGDDLLQCHPAVAFPCGRPWKAKMKSHKAPTEDDQV--DPRILGKKTTRA 178

DB 162 APGEVLADHNRCKSTVNFPCCKLGRWIEKKKILKRDV-DLEDELPDRIVNGITIKQ 220  
DB 179 GDSPWQVLLDSKKKILACAVLHPSWYLTAACQDESKKLVRLGEYDLRWEKWEIDL 238  
DB 221 GDSPWQVLLDSKKKILACAVLHPSWYLTAACQDESKKLVRLGEYDLRWEKWEIDL 280  
DB 239 DIKEVFNHNYSKSTTDNDIALHQAQATISQITVPCLPDGLAEELNQAQHTTAVT 298  
DB 281 DIKEVFNHNYSKSTTDNDIALHQAQATISQITVPCLPDGLAEELNQAQHTTAVT 339  
DB 299 GMGVSHSRKAKKRNRPVNFPIKIPVPHNEGEVSMWSNNLCAGLIGRQDACEG 358  
DB 340 GMGVSHSRKAKKRNRPVNFPIKIPVPHNEGEVSMWSNNLCAGLIGRQDACEG 399  
DB 359 DSGPMVVFPGTWFLVGLVSMGEGCGHTNNYGYTKVGSYLKMHSTYIGEKVSLKS 416  
DB 400 DSGPMVVFPGTWFLVGLVSMGEGCGHTNNYGYTKVGSYLKMHSTYIGEKVSLKS 457

## RESULT 4

ID 0804X5 PRELIMINARY; PRT; 433 AA.

AC 0804X5;

DT 01-JUN-2003 (Tremblrel. 24, Created)

DT 01-JUN-2003 (Tremblrel. 24, Last sequence update)

DT 01-OCT-2003 (Tremblrel. 25, Last annotation update)

DE Anticoagulant protein C precursor (EC 3.4.21.69).

GN PROC.

OC Gallus gallus (Chicken).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;

OX NCBI\_TaxID=9031;

RN [1]

RP SEQUENCE FROM N.A.

RA Davidson C.U., Hirt R.P., Lal K., Snell P., Elgar G.,

RT "Comparative sequence analysis and molecular evolution of blood

coagulation genes from Gallus gallus and Fugu rubripes."

RL Submitted (JUN-2002) to the EMBL/GenBank/DBJ databases.

DR EMBL; AF465270; AAO33365.1; -

DR GO; GO:0005576; C:extracellular; IEA.

DR GO; GO:0005509; F:calcium ion binding; IEA.

DR GO; GO:0004263; F:chymotrypsin activity; IEA.

DR GO; GO:0016787; F:hydrolase activity; IEA.

DR GO; GO:0003808; F:protein C (activated) activity; IEA.

DR GO; GO:0004295; F:trypsin activity; IEA.

DR GO; GO:0006508; P:proteolysis and peptidolysis; IEA.

DR InterPro; IPR000152; Asx\_hydroxyl\_S.

DR InterPro; IPR009003; Cys\_Ser\_trypsin.

DR InterPro; IPR000742; EGF\_2.

DR InterPro; IPR001881; EGF\_Ca.

DR InterPro; IPR006209; EGF\_like.

DR InterPro; IPR002383; GLA\_blood.

DR InterPro; IPR006210; IEGF.

DR InterPro; IPR001254; Peptidase\_S1.

DR InterPro; IPR001354; Peptidase\_S1A.

DR InterPro; IPR000294; VitK\_dep\_GLA.

DR Pfam; PF00008; EGF\_1.

DR Pfam; PF00594; gla; 1.

DR Pfam; PF00089; trypsin; 1.

DR PRINTS; PR00722; CHYMOTRYPSIN.

DR PRINTS; PR00001; GLABLOOD.

DR SMART; SM00181; EGF\_2.

DR SMART; SM00179; EGF\_Ca; 1.

DR SMART; SM00069; GLA; 1.

DR PROSITE; PS00010; ASX\_HYDROXYL; 1.

DR PROSITE; PS00022; EGF\_1; 1.

DR PROSITE; PS01186; EGF\_2; 2.

DR PROSITE; PS01187; EGF\_Ca; 1.

DR PROSITE; PS00011; GLU\_CARBOXYLATION; 1.

DR PROSITE; PS00240; TRYPSIN\_DOM; 1.

DR InterPro: IPR002383; GLA blood.  
 DR InterPro: IPR006210; IEGF.  
 DR InterPro: IPR001254; Peptidase S1.  
 DR InterPro: IPR001314; Peptidase S1A.  
 DR InterPro: IPR000294; Vitk\_dep\_GLA.  
 DR Pfam: PF00008; EGF; 2.  
 DR Pfam: PF00594; gla; 1.  
 DR Pfam: PF00089; trypsin; 1.  
 DR PRINTS: PR00722; CHYMOTRYPSIN.  
 DR PRINTS: PR00001; GLABLOOD.  
 DR SMART: SM00181; EGF; 2.  
 DR SMART: SM00063; GLA; 1.  
 DR SMART: SM00020; tryp; 1.  
 DR PROSITE: PS00010; ASX HYDROXYL; 1.  
 DR PROSITE: PS00022; EGF 1; 1.  
 DR PROSITE: PS01186; EGF 2; 2.  
 DR PROSITE: PS01187; EGF CA; 1.  
 DR PROSITE: PS00011; GLUT CARBOXYLATION; 1.  
 DR PROSITE: PS00240; TRYPSIN\_DOM; 1.  
 DR PROSITE: PS00134; TRYPSIN\_HIS; 1.  
 DR PROSITE: PS00135; TRYPSIN\_SER; 1.  
 KW EGF-like domain; Hydrolase; Protease; Serine protease; Signal.  
 FT SIGNAL 1 42 POTENTIAL.  
 FT CHAIN 43 192 PROTEIN C LIGHT CHAIN.  
 FT CHAIN 193 194 PROTEIN C CONNECTING DIPEPTIDE.  
 FT CHAIN 195 456 PROTEIN C HEAVY CHAIN.  
 SQ SEQUENCE 456 AA; 50813 MW; 7AD3A8C1C34E59F CRC64;

Query Match 81.5%; Score 1894.5; DB 6; Length 456;  
 Best Local Similarity 80.9%; Pred. No. 1.2e-173;  
 Matches 339; Conservative 31; Mismatches 44; Indels 5; Gaps 2;

QY 1 ANSFLEELRHSSLEKECEIEICDFEAKEIFONVDITLAFMSKHVDSQCVLPLEHPCA 60  
 DB 43 ANSFLEELRHSSLEKECEIEICDFEAKEIFONVDITLAFMSKHVDSQCVLPLEHPCA 102  
 QY 61 SLCCGHTCIDIGSGFSDCRSGWERRPCQGEVFLNCSLDNGGCTHYCLEEYGMRCSC 120  
 DB 103 SPCCGHTCIDIGSGFSDCRSGWERRPCQGEVFLNCSLDNGGCTHYCLEEYGMRCSC 162  
 QY 121 APGYLGDLLQCHPAVYPCGRPMKREKRSRLKRTEDQEDVDYDRLIDGKMTRRD 180  
 DB 163 APGYLGDLLQCHPAVYPCGRPMKREKRSRLKRTEDQEDVDYDRLIDGKMTRRD 221  
 QY 181 SPWQVVLDSKKKLACGAVILHPSWVLTAAHOMESKYLVLGEYDRLRREKMEIDL 240  
 DB 222 SPWQVVLDSKKKLACGAVILHPSWVLTAAHOMESKYLVLGEYDRLRREKMEIDL 281  
 QY 241 KEVVEHNYKSTTNDIALHLAOPATLSQTIYPICLPDSGLARELNQAGETVLTGM 300  
 DB 282 KEVVEHNYKSTTNDIALHLAOPATLSQTIYPICLPDSGLARELNQAGETVLTGM 341  
 QY 301 GYHSREKEAKRRTFVNLFIKIPVPHNECEVSMVMSENNLCAGILGRDACEG 360  
 DB 342 GYHSREKEAKRRTFVNLFIKIPVPHNECEVSMVMSENNLCAGILGRDACEG 397  
 QY 361 GGPVVASFHGTWFLVGLVSGEGGLNAYGYTTVRSYLDNHGTHIDKARPOKMAP 419  
 DB 398 GGPVVASFHGTWFLVGLVSGEGGLNAYGYTTVRSYLDNHGTHIDKARPOKMAP 456

RESULT 2  
 Q91WN8 PRELIMINARY; PRT; 460 AA.  
 ID Q91WN8;  
 AC Q91WN8;  
 DT 01-DEC-2001 (TREMBlrel. 19, Created)  
 DT 01-DEC-2001 (TREMBlrel. 19, Last sequence update)  
 DT 01-OCT-2003 (TREMBlrel. 25, Last annotation update)  
 DE Similar to protein C.  
 GN PROC.  
 OS Mus musculus (Mouse).  
 OC Eukaryota; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

OX NCBI\_TaxID=10090;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Liver;  
 RA Strauberg R.;  
 RL Submitted (SEP-2001) to the EMBL/Genbank/DBJ databases.  
 CC -1 SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1.  
 DR EMBL; BC01896; AAH13996.1; -.  
 DR HSP; P00761; IAN1.  
 DR MGD; MGI:97771; Proc.  
 DR GO; GO:0005576; C:extracellular; IEA.  
 DR GO; GO:0005509; F:calcium ion binding; IEA.  
 DR GO; GO:0004263; F:chymotrypsin activity; IEA.  
 DR GO; GO:0008233; F:peptidase activity; IEA.  
 DR GO; GO:0004295; F:trypsin activity; IEA.  
 DR GO; GO:0006508; P:peptidolysis and peptidolysis; IEA.  
 DR InterPro: IPR000152; Asx hydroxyl\_S.  
 DR InterPro: IPR009003; Cys Ser trypsin.  
 DR InterPro: IPR001881; EGF Ca.  
 DR InterPro: IPR006209; EGF-like.  
 DR InterPro: IPR002383; GLA blood.  
 DR InterPro: IPR001254; Peptidase S1.  
 DR InterPro: IPR001314; Peptidase S1A.  
 DR InterPro: IPR000294; Vitk\_dep\_GLA.  
 DR Pfam: PF00008; EGF; 2.  
 DR Pfam: PF00594; gla; 1.  
 DR PRINTS: PR00722; CHYMOTRYPSIN.  
 DR PRINTS: PR00001; GLABLOOD.  
 DR SMART: SM00179; EGF CA; 1.  
 DR SMART: SM00063; GLA; 1.  
 DR SMART: SM00020; tryp; 1.  
 DR PROSITE: PS00010; ASX HYDROXYL; 1.  
 DR PROSITE: PS00022; EGF 1; 1.  
 DR PROSITE: PS01186; EGF 2; 2.  
 DR PROSITE: PS01187; EGF CA; 1.  
 DR PROSITE: PS00011; GLUT CARBOXYLATION; 1.  
 DR PROSITE: PS00240; TRYPSIN\_DOM; 1.  
 DR PROSITE: PS00134; TRYPSIN\_HIS; 1.  
 DR PROSITE: PS00135; TRYPSIN\_SER; 1.  
 KW EGF-like domain; Hydrolase; Protease; Serine protease.  
 SQ SEQUENCE 460 AA; 51818 MW; 0117F2E68FCC274 CRC64;

Query Match 70.4%; Score 1635; DB 11; Length 460;  
 Best Local Similarity 69.9%; Pred. No. 1.2e-148;  
 Matches 222; Conservative 55; Mismatches 67; Indels 4; Gaps 3;

QY 1 ANSFLEELRHSSLEKECEIEICDFEAKEIFONVDITLAFMSKHVDSQCVLPLEHPCA 60  
 DB 42 ANSFLEELRHSSLEKECEIEICDFEAKEIFONVDITLAFMSKHVDSQCVLPLEHPCA 101  
 QY 61 SLCCGHTCIDIGSGFSDCRSGWERRPCQGEVFLNCSLDNGGCTHYCLEEYGMRCSC 120  
 DB 102 SPCCGHTCIDIGSGFSDCRSGWERRPCQGEVFLNCSLDNGGCTHYCLEEYGMRCSC 161  
 QY 121 APGYLGDLLQCHPAVYPCGRPMKREKRSRLKRTEDQEDVDYDRLIDGKMTRR 178  
 DB 162 APGYLGDLLQCHPAVYPCGRPMKREKRSRLKRTEDQEDVDYDRLIDGKMTRR 220  
 QY 179 GSPWQVVLDSKKKLACGAVILHPSWVLTAAHOMESKYLVLGEYDRLRREKMEIDL 238  
 DB 221 GSPWQVVLDSKKKLACGAVILHPSWVLTAAHOMESKYLVLGEYDRLRREKMEIDL 280  
 QY 239 DIKEVVEHNYKSTTNDIALHLAOPATLSQTIYPICLPDSGLARELNQAGETVLT 298  
 DB 281 DIKEVVEHNYKSTTNDIALHLAOPATLSQTIYPICLPDSGLARELNQAGETVLT 339  
 QY 299 GYHSREKEAKRRTFVNLFIKIPVPHNECEVSMVMSENNLCAGILGRDACEG 358  
 DB 340 GYHSREKEAKRRTFVNLFIKIPVPHNECEVSMVMSENNLCAGILGRDACEG 399  
 QY 359 DSGPVMVASFHGTWFLVGLVSGEGGLNAYGYTTVRSYLDNHGTHIDKARPOK 416

GenCore version 5.1.6  
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## OM protein - protein search, using sw model

Run on: June 2, 2004, 16:51:36 ; Search time 56 Seconds  
(without alignments)  
2360.752 Million cell updates/sec

Title: US-09-997-623-4  
Perfect score: 2324

Sequence: 1 ANSTLEHLSHSLRECEIE.....IDWTHGHRDKEAPQKSNAP 419

Scoring table: BLOSUM62  
Gapop 10.0, Gapext 0.5

Searched: 1017041 seqs, 315518202 residues

Total number of hits satisfying chosen parameters: 1017041

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%

Listing first 45 summaries

## Database :

SPTREMBL\_25:\*  
1: sp archaea:\*  
2: sp bacteria:\*  
3: sp fungi:\*  
4: sp human:\*  
5: sp invertebrate:\*  
6: sp mammal:\*  
7: sp mhc:\*  
8: sp organelle:\*  
9: sp phage:\*  
10: sp plant:\*  
11: sp rodent:\*  
12: sp virus:\*  
13: sp vertebrate:\*  
14: sp unclassified:\*  
15: sp virus:\*  
16: sp bacteriap:\*  
17: sp archaeap:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	1894.5	81.5	456	6 Q9TRR0	Q9TRR0 canis famli
2	1635	70.4	460	11 Q9JWN6	Q9JWN6 mus musculu
3	1629	70.1	460	11 Q9JPC6	Q9JPC6 mus musculu
4	1143.5	49.2	433	13 Q804X5	Q804X5 gallus galli
5	1134.5	48.8	455	13 Q7SY86	Q7SY86 xenopus lae
6	1063	45.7	195	4 Q8J008	Q8J008 homo sapien
7	1062	45.7	195	4 Q8J007	Q8J007 homo sapien
8	1059	45.6	195	4 Q8J006	Q8J006 homo sapien
9	1053	45.6	195	4 Q8J005	Q8J005 homo sapien
10	975.5	42.0	434	13 Q7J3B6	Q7J3B6 brachydanio
11	927	39.9	211	4 Q8J009	Q8J009 homo sapien
12	818.5	35.2	482	11 Q63207	Q63207 rattus norv
13	799.5	34.4	425	13 Q804X7	Q804X7 gallus galli
14	794	34.2	481	11 Q88947	Q88947 mus musculu
15	793	34.1	481	11 Q54740	Q54740 mus musculu
16	793	34.1	481	11 Q99132	Q99132 mus musculu

17	788	33.9	446	11 Q8K3U6	Q8K3U6 rattus norv
18	787	33.9	433	13 Q90YK1	Q90YK1 brachydanio
19	784	33.7	433	13 Q8JHD0	Q8JHD0 brachydanio
20	781	33.6	479	4 Q96PQ8	Q96PQ8 homo sapien
21	775	33.3	475	13 Q804W9	Q804W9 fuqu rubrip
22	773	33.3	469	6 Q9GMD9	Q9GMD9 ornithorhyn
23	772	33.2	446	11 Q61109	Q61109 mus musculu
24	749.5	32.3	441	13 Q804X2	Q804X2 fuqu rubrip
25	740	32.0	442	13 Q804X1	Q804X1 fuqu rubrip
26	743	31.8	461	6 Q95ND7	Q95ND7 pan troglod
27	739.5	31.8	471	13 Q804X6	Q804X6 gallus galli
28	734.5	31.6	430	13 Q804X0	Q804X0 fuqu rubrip
29	718	30.9	461	6 Q95ND6	Q95ND6 pan troglod
30	711.5	30.6	443	13 Q8JHC9	Q8JHC9 brachydanio
31	703	30.2	503	13 Q8AYE4	Q8AYE4 brachydanio
32	688.5	29.6	537	13 Q804W8	Q804W8 fuqu rubrip
33	671.5	28.9	474	13 Q8JHC8	Q8JHC8 brachydanio
34	565.5	24.3	524	13 Q7SXH8	Q7SXH8 brachydanio
35	565.5	24.3	622	4 Q7Z7P3	Q7Z7P3 homo sapien
36	525	22.6	608	13 Q9PTW7	Q9PTW7 struthio ca
37	523	22.5	612	13 Q804W7	Q804W7 fuqu rubrip
38	512	22.0	607	13 Q91001	Q91001 gallus galli
39	479.5	20.6	340	11 Q80Y26	Q80Y26 mus musculu
40	477.5	20.5	653	11 Q8YCS4	Q8YCS4 mus musculu
41	475	20.4	681	13 Q7Z7T0	Q7Z7T0 lampetra ja
42	470	20.2	399	11 Q9CQW3	Q9CQW3 mus musculu
43	457	19.7	540	13 Q800Y7	Q800Y7 meleagris g
44	456	19.6	680	5 Q868H5	Q868H5 branchiosto
45	440.5	19.0	1379	5 Q9V4N6	Q9V4N6 drosophila

## ALIGNMENTS

## RESULT 1

Q9TRR0 PRELIMINARY; PRT; 456 AA.  
ID Q9TRR0  
AC Q9TRR0;  
DT 01-MAY-2000 (TREMBLrel. 13, Created)  
DT 01-MAY-2000 (TREMBLrel. 13, Last sequence update)  
DT 01-OCT-2003 (TREMBLrel. 25, Last annotation update)  
DE Protein C precursor.  
GN PROC.  
OS Canis familiaris (Dog).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.  
OX NCBI\_TaxID=9615;  
RN [1]  
RP SEQUENCE FROM N.A.  
RA Leeb T., Kopp T., Deppe A., Breen M., Matris U., Brumberg L.,  
RA Breenig B.,  
RT "Molecular characterization and chromosomal assignment of the canine  
RT protein C gene.";  
RL Mamm. Genome 10:135-139(1999).  
RM [2]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=9371952; PubMed=10443005;  
RA Leeb T., Pfeiffer I., Kopp T., Deppe A., Breenig B.,  
RT "Analysis of canine protein C gene polymorphisms.";  
RL Anim. Genet. 30:237-238(1999).  
CC -1- SIMILARITY: BELONGS TO PEPTIDASE FAMILY S1.  
EMBL: A0001979; CAA05126.1; ..  
DR HSPF; P04070; IADT.  
DR GO; GO:0005576; C:extracellular; IEA.  
DR GO; GO:0005509; F:calcium ion binding; IEA.  
DR GO; GO:0004263; F:chymotrypsin activity; IEA.  
DR GO; GO:0008233; F:peptidase activity; IEA.  
DR GO; GO:0004295; F:trypsin activity; IEA.  
DR GO; GO:0005506; P:proteolysis and peptidolysis; IEA.  
DR InterPro; IPR00152; Asx\_hydroxyl\_S.  
DR InterPro; IPR009003; Cys\_ser\_trypsin.  
DR InterPro; IPR001881; EGF\_Ca.  
DR InterPro; IPR062029; EGF\_like.



DR PROSITE; PS00134; TRYPSIN\_HIS; 1.  
DR PROSITE; PS00135; TRYPSIN\_SER; 1.  
KW Hydrolyase; Serine protease; Blood coagulation; Zymogen; Glycoprotein;  
KW Liver; Plasma; Vitamin K; Calcium-binding; Gamma-carboxyglutamic acid;  
KW EGF-like domain; Repeat; Signal; Hydroxylation.  
FT SIGNAL 1 24  
FT PROPEP 25 41  
FT CHAIN 42 193  
FT CHAIN 194 446  
FT DOMAIN 47 76  
FT DOMAIN 87 123  
FT DOMAIN 128 169  
FT DOMAIN 194 446  
FT SITE 193 194  
FT ACT SITE 234 234  
FT ACT SITE 283 283  
FT ACT SITE 385 385  
FT BINDING 379 379  
FT DISULFID 58 63  
FT DISULFID 91 102  
FT DISULFID 113 122  
FT DISULFID 132 143  
FT DISULFID 139 153  
FT DISULFID 155 168  
FT DISULFID 176 205  
FT DISULFID 200 235  
FT DISULFID 219 370  
FT DISULFID 351 370  
FT DISULFID 381 409  
FT MOD\_RES 47 48  
FT MOD\_RES 48 48  
FT MOD\_RES 55 55  
FT MOD\_RES 57 57  
FT MOD\_RES 60 60  
FT MOD\_RES 61 61  
FT MOD\_RES 66 66  
FT MOD\_RES 67 67  
FT MOD\_RES 70 70  
FT MOD\_RES 76 76  
FT MOD\_RES 104 104  
FT CARBOHYD 186 186  
FT CARBOHYD 244 244  
SQ SEQUENCE 446 AA; 50276 MW; 2512E4A4A5CB965E CRC64;

Query Match 33.1%; Score 770; DB 1; Length 446;  
Best Local Similarity 38.8%; Pred. No. 2,4e-53;  
Matches 163; Conservative 71; Mismatches 150; Indels 36; Gaps 10;

QY 1 ANSLFELRLHSLEPCEEFICDPEFAKELPQNVDTLAFMSKHVNDQCCLVPLEHPCA 60  
DB 42 ANSLFELRLHSLEPCEEFICDPEFAKELPQNVDTLAFMSKHVNDQCCLVPLEHPCA 95  
QY 61 SLCCGHTGICDGSFDCRSGWGRFCQREVS-FLNCSLDNGGCTHYCLEVWGR-C 118  
DB 96 --CQNGTCQDHLKSYVCFCLDPESGNCESKNEQLICANENGDCQYCRDHYGTKTC 153  
QY 119 SCAPGYKLDLLIQCHPAKPPCGRPWKMEKRSKSLKRTDEQDQVDPRLIDKMTTR 178  
DB 154 SCHEDYTLDPDEVSCKPEKVEYPCGR-IPVVEKRNSSRQG-----RIVGANCPK 202  
QY 179 GDSPPQVYLLDSKKKLAGAVLHPSPVLTAAHCDKESK--KLVRLGEYDLRRWEKE 235  
DB 203 GECPEQAV-LKINGLLCGAVLDAKAVITAAHCFDNRIRYGNITVVMGHHDFSEKQDE 261  
QY 236 LIDLKVEFVHPYNSKSTNDIALHLAQATLSQITVPICLPDSGLARELNQAGET 295  
DB 262 QVRAVYQVMPDYKINGKINBDIALRLHRPVFTDYVPLCLPEKFSSENTIARI-RFS 320  
QY 296 LVTGNGHSREKAEARNTFYLNFIKIPVPHNCESEVMN-----MISENMLCAGILG 350  
DB 321 RVSGWGLIDRGATA-----LELMSIEVPRIMTQDCLSHAKSSNTFKITENMFCAGYMD 375

QY 351 DRDACEGDSGSPWVASFHGTWELVGLVSWEGGCLHHNYGYTVSRYYLDMHGHIRDK 410  
DB 376 GTDACKGDSGSPHNTHTHTWTLTGIVSWEGGCAIGHIGYTVRSQYIDWIVRHMDSK 435

Search completed: June 2, 2004, 16:56:13  
Job time : 38 secs

FT DOMAIN 46 82 EGF-LIKE 1, CALCIUM-BINDING (POTENTIAL).  
 FT DOMAIN 87 128 EGF-LIKE 2.  
 FT DOMAIN 153 407 SERINE PROTEASE.  
 FT SITE 152 153 CLEAVAGE (BY FACTOR XA, FACTOR XIIA,  
 FACTOR IXA, OR THROMBIN).  
 FT ACT SITE 193 193 BY SIMILARITY.  
 FT ACT SITE 242 242 BY SIMILARITY.  
 FT ACT SITE 344 344 BY SIMILARITY.  
 FT BINDING 338 338 SUBSTRATE (BY SIMILARITY).  
 FT DISULFID 17 22 BY SIMILARITY.  
 FT DISULFID 50 61 BY SIMILARITY.  
 FT DISULFID 55 70 BY SIMILARITY.  
 FT DISULFID 72 81 BY SIMILARITY.  
 FT DISULFID 91 102 BY SIMILARITY.  
 FT DISULFID 98 112 BY SIMILARITY.  
 FT DISULFID 114 127 BY SIMILARITY.  
 FT DISULFID 135 262 BY SIMILARITY.  
 FT DISULFID 159 164 BY SIMILARITY.  
 FT DISULFID 178 194 BY SIMILARITY.  
 FT DISULFID 310 329 BY SIMILARITY.  
 FT DISULFID 340 368 BY SIMILARITY.  
 FT MOD RES 6 7 GAMMA-CARBOXYGLUTAMIC ACID.  
 FT MOD RES 7 7 GAMMA-CARBOXYGLUTAMIC ACID.  
 FT MOD RES 14 14 GAMMA-CARBOXYGLUTAMIC ACID.  
 FT MOD RES 16 16 GAMMA-CARBOXYGLUTAMIC ACID.  
 FT MOD RES 19 19 GAMMA-CARBOXYGLUTAMIC ACID.  
 FT MOD RES 20 20 GAMMA-CARBOXYGLUTAMIC ACID.  
 FT MOD RES 25 25 GAMMA-CARBOXYGLUTAMIC ACID.  
 FT MOD RES 26 26 GAMMA-CARBOXYGLUTAMIC ACID.  
 FT MOD RES 29 29 GAMMA-CARBOXYGLUTAMIC ACID.  
 FT MOD RES 35 35 GAMMA-CARBOXYGLUTAMIC ACID.  
 FT CARBOHYD 52 52 O-LINKED (GLC. . .).  
 FT CARBOHYD 145 145 N-LINKED (GLCNAC. . .).  
 FT CARBOHYD 203 203 N-LINKED (GLCNAC. . .).  
 FT SEQUENCE 407 AA; 44431 MW; 703E1FE0635F7E10 CRC64;

Query Match 33.5%; Score 779.5; DB 1; Length 407;  
 Best Local Similarity 39.6%; Pred. No. 3.9e-54;  
 Matches 166; Conservative 64; Mismatches 150; Indels 39; Gaps 11;

QY 1 ANSPFELRHSLERCEICDEPEAKEIFQVNDTLAFMSKVDQCLVPLEHCA 60  
 DB 1 ANGFLLELLPGLSERCRELCSEFAHEIFRNEETROFWVSYNDGQC-----AS 52  
 QY 61 SLCCGATCIDIGISESCDRCSGMEGRFCORE-VSFINCSDNGCTHYCLEBVG-WRRC 118  
 DB 53 SPQNGSGCEDQLRSYICCPDGPFGNCCETDQSLICANDNGGCEQYCANDPGAGRFC 112  
 QY 119 SCAPGYKLGDDLLQCHPAVKFPGCGEPKMKRSHLAKUTEDQEDQVDRLLDGMTRR 178  
 DB 113 WCEBGVALQADVSCAPVWEYPCGR-IPVLEKENG-----SKPGRIVGHWCPK 161  
 QY 179 GSPPOVVLDSKKKLLACGAVLIHPSWLTAAQWDESK--KLVLAGEYDLRMEKME 235  
 DB 162 GECPEWQ-AMKLKNCALLCGTIVGAWVSAACFERLRSRNLTAIVGHDSRVEGPE 220  
 QY 236 LIDIDKEVFHNPYSKSTDDNDIALHLAPATLSQTIPICLPSGLAERELNQAQET 295  
 DB 221 QERVAQIIVPKQVPGQDHDVALLQAGVALGQHVAFPLCLPDPFADQTLAFV-BFS 279  
 QY 296 LVTGCHHSREKAKRNTFVANIETKVPVFNHESVMSN-----MSEMLCAIGLG 350  
 DB 280 AVSGMGQLLERGVTAAR-----LMVVLVRLTLDDCLQSRQRPGRPGVPTDNNFCAGYSD 334  
 QY 351 DRGACGEGSGGSPVWAFHGTWPLVGLVSGCGGLHNYGVYTVKSRYLDMTH--GH 406  
 DB 335 GSKDACGDSGSGPATFRGTWFLTGVSWSGEGCAAGHFGYITRVSYTAMLRQLMGH 393

RESULT 15  
 ID\_FAT MOUSE STANDARD; PRT; 446 AA.  
 AC P70375;

DT 01-NOV-1997 (Rel. 35, Created)  
 DT 01-NOV-1997 (Rel. 35, Last sequence update)  
 DT 10-OCT-2003 (Rel. 42, Last annotation update)  
 DE Coagulation factor VII precursor (EC 3.4.21.21) (serum prothrombin  
 conversion accelerator).  
 GN F7 OR CTF.  
 OS Mus musculus (Mouse).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
 NCBI\_TaxID=10090;  
 RN [1]  
 RP SEQUENCE FROM N. A.  
 RX MEDLINE=97127167; PubMed=8972017;  
 RA Idusogie E., Rosen B.D., Carmeliet P., Collen D., Castellino F.J.;  
 RT "Nucleotide structure and characterization of the murine blood  
 coagulation factor VII gene.";  
 RL Thromb. Haemostasis. 76:957-964(1996).  
 CC -1- FUNCTION: Circulates in the blood in a zymogen form. Factor VII is  
 converted to factor VIIa by factor XIIa, factor XIIa, factor IXa, or  
 thrombin by minor proteolysis. In the presence of tissue factor  
 and calcium ions, factor VIIa then converts factor X to factor Xa  
 by limited proteolysis. Factor VIIa will also convert factor IX to  
 factor IXa in the presence of tissue factor and calcium (by  
 similarity).  
 CC -1- CATALYTIC ACTIVITY: Hydrolyzes one Arg-|-Ile bond in factor X to  
 form factor Xa.  
 CC -1- SUBUNIT: Heterodimer of a light chain and a heavy chain linked by  
 a disulfide bond (By similarity).  
 CC -1- TISSUE SPECIFICITY: Plasma.  
 CC -1- PTM: The vitamin K-dependent, enzymatic carboxylation of some  
 glutamate residues allows the modified protein to bind calcium (By  
 similarity).  
 CC -1- SIMILARITY: Belongs to peptidase family S1.  
 CC -1- SIMILARITY: Contains 2 EGF-like domains.  
 CC This SWISS-PROT entry is copyrighted. It is produced through a collaboration  
 between the Swiss Institute of Bioinformatics and the EMBL outstation -  
 the European Bioinformatics Institute. There are no restrictions on its  
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 or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).  
 CC EMBL, U66079; AAC3796.1; -.  
 CC HSSP, P08709; 1BF9.  
 CC MEROPS, S01.215; -.  
 CC MGD; MGI:109325; F7.  
 CC InterPro: IPR000152; Asx hydroxyl S.  
 CC InterPro: IPR009003; Cys Ser trypsin.  
 CC InterPro: IPR000742; EGF 2.  
 CC InterPro: IPR001881; EGF CA.  
 CC InterPro: IPR001438; EGF 11.  
 CC InterPro: IPR006209; EGF like.  
 CC InterPro: IPR002383; GLA blood.  
 CC InterPro: IPR001254; Peptidase S1.  
 CC InterPro: IPR001314; Peptidase GLA.  
 CC InterPro: IPR000294; VitK\_dep\_GLA.  
 CC Pfam, PF00008; EGF 2.  
 CC Pfam, PF00594; gla 1.  
 CC Pfam, PF00089; trypsin 1.  
 CC PRINTS: PR00722; CHYMOTRYPSIN.  
 CC PRINTS: PR00010; EGFBLOOD.  
 CC PRINTS: PR00001; GLABLOOD.  
 CC SMART, SM00179; EGF\_CA 1.  
 CC SMART, SM0069; GLA 1.  
 CC SMART, SM0020; TRYP\_SPE 1.  
 CC PROSITE, PS00010; ASX HYDROXYL 1.  
 CC PROSITE, PS00022; EGF 1 1.  
 CC PROSITE, PS01186; EGF 2, FALSE\_NEG.  
 CC PROSITE, PS00026; EGF 3 1.  
 CC PROSITE, PS01187; EGF\_CA 1.  
 CC PROSITE, PS00011; GLU CARBOXYLATION 1.  
 CC PROSITE, PS0240; TRYPSIN\_DOM 1.



- RA MEDLINE=89088153; PubMed=3264725;  
RA Thim L., Bjoern S., Christensen M., Nicolaisen E.M., Lund-Hansen T.,  
RA Pedersen A.H., Hedner U.; posttranslational modifications of human  
RT "Amino acid sequence and posttranslational modifications of human  
RT factor VIIa from plasma and transfected baby hamster kidney cells.";  
RL Biochemistry 27:7785-7793(1988).  
RN [5]  
RP CARBOHYDRATE-LINKAGE SITES SER-112 AND SER-120.  
RX MEDLINE=9150411; PubMed=1904059;  
RA Bjoern S., Foster D.C., Thim L., Wiberg F.C., Christensen M.,  
RA Komiya Y., Pedersen A.H., Kistiel W.;  
RT "Human plasma and recombinant factor VII. Characterization of O-  
RT glycosylation at serine residues 52 and 60 and effects of site-  
RT directed mutagenesis of serine 52 to alanine.";  
RL J. Biol. Chem. 266:11051-11057(1991).  
RN [6]  
RP STRUCTURE OF CARBOHYDRATE ON SER-112.  
RX MEDLINE=90062160; PubMed=2511201;  
RA Nishimura H., Kawabata S., Kistiel W., Hase S., Ikenaka T., Takao T.,  
RA Shimomishi Y., Iwanaga S.;  
RT "Identification of a disaccharide (Xyl-Glc) and a trisaccharide  
RT (Xyl2-Glc) O-glycosidically linked to a serine residue in the first  
RT epidermal growth factor-like domain of human factors VII and IX and  
RT protein Z and bovine protein Z.";  
RL J. Biol. Chem. 264:20320-20325(1989).  
RN [7]  
RP STRUCTURE OF CARBOHYDRATE ON SER-112.  
RX MEDLINE=91344709; PubMed=2129367;  
RA Iwanaga S., Nishimura H., Kawabata S., Kistiel W., Hase S., Ikenaka T.;  
RT "A new trisaccharide sugar chain linked to a serine residue in the  
RT first EGF-like domain of clotting factors VII and IX and protein Z.";  
RL Adv. Exp. Med. Biol. 281:121-131(1990).  
RN [8]  
RP X-RAY CRYSTALLOGRAPHY (2.0 ANGSTROMS) OF FVIIA IN COMPLEX WITH TF.  
RX MEDLINE=96175641; PubMed=8558903; PubMed=925787;  
RA Banner D.W., D'Arcy A., Chene C., Winkler F.K., Guha A.,  
RA Konigsberg W.H., Nemerson Y., Kirchhofer D.;  
RT "The crystal structure of the complex of blood coagulation factor  
RT VIIa with soluble tissue factor.";  
RL Nature 380:41-46(1996).  
RN [9]  
RP X-RAY CRYSTALLOGRAPHY (2.1 ANGSTROMS) OF FVIIA IN COMPLEX WITH TF.  
RX MEDLINE=99126538; PubMed=9925787;  
RA Zhang E., St Charles R., Tulinsky A.;  
RT "Structure of extracellular tissue factor complexed with factor VIIa  
RT inhibited with a BPTI mutant.";  
RL J. Mol. Biol. 285:2089-2104(1999).  
RN [10]  
RP STRUCTURE BY NMR OF 105-145.  
RX MEDLINE=98367502; PubMed=9692950;  
RA Muranyi A., Finn B.E., Gippert G.P., Forsen S., Stenflo J.,  
RA Draehenberg T.;  
RT "Solution structure of the N-terminal EGF-like domain from human  
RT factor VII.";  
RL Biochemistry 37:10605-10615(1998).  
RN [11]  
RP VARIANT GLN-364.  
RX MEDLINE=91300046; PubMed=2070047;  
RA O'Brien D.P., Gale K.M., Anderson J.S., McVey J.H., Miller G.J.,  
RA Weade T.W., Tuddenham E.G.D.;  
RT "Purification and characterization of factor VII 304-Gln: a variant  
RT molecule with reduced activity isolated from a clinically unaffected  
RT male.";  
RL Blood 78:132-140(1991).  
RN [12]  
RP VARIANTS GLN-364 AND PHE-370.  
RX MEDLINE=92340074; PubMed=1634227;  
RA Marchetti G., Patrachini P., Gemmati D., Derosa V., Pinotti M.,  
RA Rodolfo G., Casonato A., Girolami A., Bernardi F.;  
RT "Detection of two missense mutations and characterization of a repeat  
RT polymorphism in the factor VII gene (F7).";  
RL Hum. Genet. 89:497-502(1992).  
RN [13]  
RP VARIANT TYR-238.  
RX MEDLINE=33372811; PubMed=8364544;  
RA Marchetti G., Ferrati M., Patrachini P., Redaelli R., Bernardi F.;  
RT "A missense mutation (178Cys->Tyr) and two neutral dimorphisms  
RT (115His and 333Ser) in the human coagulation factor VII gene.";  
RL Hum. Mol. Genet. 2:1055-1056(1993).  
RN [14]  
RP VARIANTS.  
RX MEDLINE=94061028; PubMed=8242057;  
RA Takamiya O., Kemball-Cook G., Martin D.M.A., Cooper D.N.,  
RA von Felten A., Meili E., Hahn I., Prangreß D.R., Lumley H.,  
RA Tuddenham E.G.D., McVey J.H.;  
RT "Detection of missense mutations by single-strand conformational  
RT polymorphism (SSCP) analysis in five dysfunctional variants of  
RT coagulation factor VII.";  
RL Hum. Mol. Genet. 2:1355-1359(1993).  
RN [15]  
RP VARIANTS CHARLOTTE GLN-139 AND GLN-212.  
RX MEDLINE=94264305; PubMed=8204879;  
RA Chahing S., Clarke B., Sridhara S., Chu K., Friedman P., Vardusen W.,  
RA Roberts H.R., Blajchman M., Monroe D.M., High K.A.;  
RT "Severe factor VII deficiency caused by mutations abolishing the  
RT cleavage site for activation and altering binding to tissue factor.";  
RL Blood 83:3524-3535(1994).  
RN [16]  
RP VARIANT VAL-354.  
RX MEDLINE=95072589; PubMed=7981691;  
RA Bernardi F., Castaman G., Redaelli R., Pinotti M., Lunghi B.,  
RA Rodeghiero F., Marchetti G.;  
RT "Topologically equivalent mutations causing dysfunctional coagulation  
RT factors VII (294Ala->Val) and X (334Ser->Pro).";  
RL Hum. Mol. Genet. 3:1175-1177(1994).  
RN [17]  
RP VARIANT MET HIS-307.  
RX MEDLINE=95064662; PubMed=7974346;  
RA Ohira M., Hayashi T., Wada H., Minamikawa K., Shirakawa S.,  
RA Suzuki K.;  
RT "Factor VII: homozygous asymptomatic type I deficiency caused by  
RT an amino acid substitution of His (CAC) for Arg (247) (CGC) in the  
RT catalytic domain.";  
RL Thromb. Haemost. 71:773-777(1994).  
RN [18]  
RP VARIANT MET-419.  
RX MEDLINE=96247510; PubMed=8652821;  
RA Abidin A.A., Mannucci P.M., Bauer K.A.;  
RT "A Thr359Met mutation in factor VII of a patient with a hereditary  
RT deficiency causes defective secretion of the molecule.";  
RL Blood 87:5085-5094(1996).  
RN [19]  
RP VARIANTS TRP-283; LYS-325; VAL-358; GLN-364; GLU-402 AND GLN-413.  
RX MEDLINE=97001216; PubMed=8844208;  
RA Bernardi F., Castaman G., Pinotti M., Ferraresi P., di Iasio M.G.,  
RA Lunghi B., Rodeghiero F., Marchetti G.;  
RT "Mutation pattern in clinically asymptomatic coagulation factor VII  
RT deficiency.";  
RL Hum. Mutat. 8:108-115(1996).  
RN [20]  
RP VARIANT VAL-304.  
RX MEDLINE=97037613; PubMed=8883260;  
RA Tamary H., Fromovich Y., Shalom L., Reich Z., Dym O., Iamir N.,  
RA Brenner B., Paz M., Luder A.S., Blau O., Korostishevsky M.,  
RA Zaitov R., Selisohn U.;  
RT "Ala44Val is a common, probably ancient mutation causing factor VII  
RT deficiency in Moroccan and Iranian Jews.";  
RL Thromb. Haemost. 76:283-291(1996).  
RN [21]  
RP VARIANT MORIOKA PRO-13.  
RX MEDLINE=98235713; PubMed=9576180;  
RA Ozawa T., Takikawa Y., Niya K., Ejiri N., Suzuki K., Sato S.,  
RA Sakuragawa N.;  
RT "Factor VII Moriooka (FVII L-26P): a homozygous missense mutation in  
RT the signal sequence identified in a patient with factor VII  
RT deficiency.";

DR Pfam: PF00089; trypsin; 1.  
 DR PRINTS; PRO0722; CHYMOTRYPSIN.  
 DR PRINTS; PRO0001; GFBLOOD.  
 DR PRINTS; PRO0001; GLABLOOD.  
 DR SMART; SM00179; EGF CA; 1.  
 DR SMART; SM00069; GLA; 1.  
 DR SMART; SM00020; TRYF SPEC; 1.  
 DR PROSITE; PS00010; ASX HYDROXYL; 1.  
 DR PROSITE; PS00022; EGF\_1; 1.  
 DR PROSITE; PS00186; EGF\_2; 2.  
 DR PROSITE; PS00026; EGF\_3; 1.  
 DR PROSITE; PS00187; EGF CA; 1.  
 DR PROSITE; PS00011; GLF CARBOXYLATION; 1.  
 DR PROSITE; PS00240; TRYPSIN DOM; 1.  
 DR PROSITE; PS00134; TRYPSIN\_HIS; 1.  
 DR PROSITE; PS00135; TRYPSIN\_SEK; 1.  
 DR Glycoprotein; Hydrolase; Serine protease; Plasma; blood coagulation;  
 KM Gamma-carboxyglutamic acid; Hydroxylation; Calcium-binding; Vitamin K;  
 KM Signal; Zymogen; EGF-like domain; Repeat.  
 FT SIGNAL 1 20 OR 30, OR 31 (POTENTIAL).  
 FT PROPEP 21 40  
 FT CHAIN 41 180 FACTOR X LIGHT CHAIN.  
 FT CHAIN 186 475 FACTOR X HEAVY CHAIN.  
 FT PROPEP 186 241 ACTIVATION PEPTIDE.  
 FT CHAIN 242 475 ACTIVATED FACTOR XA, HEAVY CHAIN.  
 FT DOMAIN 86 122 EGF-LIKE 1, CALCIUM-BINDING (POTENTIAL).  
 FT DOMAIN 125 158 EGF-LIKE 2.  
 FT DOMAIN 241 475 SERINE PROTEASE.  
 FT MOD\_RES 46 46 GAMMA-CARBOXYGLUTAMIC ACID  
 FT MOD\_RES 47 47 (BY SIMILARITY).  
 FT MOD\_RES 54 54 GAMMA-CARBOXYGLUTAMIC ACID  
 FT MOD\_RES 54 54 (BY SIMILARITY).  
 FT MOD\_RES 56 56 GAMMA-CARBOXYGLUTAMIC ACID  
 FT MOD\_RES 59 59 (BY SIMILARITY).  
 FT MOD\_RES 60 60 GAMMA-CARBOXYGLUTAMIC ACID  
 FT MOD\_RES 65 65 GAMMA-CARBOXYGLUTAMIC ACID  
 FT MOD\_RES 66 66 (BY SIMILARITY).  
 FT MOD\_RES 69 69 GAMMA-CARBOXYGLUTAMIC ACID  
 FT MOD\_RES 72 72 (BY SIMILARITY).  
 FT MOD\_RES 72 72 GAMMA-CARBOXYGLUTAMIC ACID  
 FT MOD\_RES 79 79 (BY SIMILARITY).  
 FT MOD\_RES 79 79 GAMMA-CARBOXYGLUTAMIC ACID  
 FT MOD\_RES 103 103 (BY SIMILARITY).  
 FT ACT\_SITE 282 282 HYDROXYLATION (BY SIMILARITY).  
 FT ACT\_SITE 328 328 CHARGE RELAY SYSTEM (BY SIMILARITY).  
 FT ACT\_SITE 425 425 CHARGE RELAY SYSTEM (BY SIMILARITY).  
 FT DISULFID 90 101 BY SIMILARITY.  
 FT DISULFID 95 110 BY SIMILARITY.  
 FT DISULFID 112 121 BY SIMILARITY.  
 FT DISULFID 129 140 BY SIMILARITY.  
 FT DISULFID 136 152 BY SIMILARITY.  
 FT DISULFID 154 167 INTERCHAIN (BY SIMILARITY).  
 FT DISULFID 175 348 BY SIMILARITY.  
 FT DISULFID 247 252 BY SIMILARITY.  
 FT DISULFID 267 283 BY SIMILARITY.  
 FT DISULFID 396 410 BY SIMILARITY.  
 FT DISULFID 421 449 BY SIMILARITY.  
 FT CARBOHYD 186 196 N-LINKED (GLCNAC... ) (POTENTIAL).  
 FT CARBOHYD 207 207 N-LINKED (GLCNAC... ) (POTENTIAL).  
 FT CARBOHYD 228 228 N-LINKED (GLCNAC... ) (POTENTIAL).  
 FT CARBOHYD 285 285 N-LINKED (GLCNAC... ) (POTENTIAL).  
 SQ SEQUENCE 475 AA; 53142 MW; 570BF84956C57AD CRC64;

Query Match 34.5%; Score 801.5; DB 1; Length 475;  
 Best Local Similarity 36.1%; Pred. No. 8.6e-56;

Matches 163; Conservative 84; Mismatches 147; Indels 57; Gaps 8;  
 QY 1 ANSFELEKHSLSRECEIEICDFEAREIFQNVDTLAFMSKHYVDGQICLPLHPQA 60  
 DB 41 ANSFELEKHSLSRECEIEICDFEAREIFQNVDTLAFMSKHYVDGQICLPLHPQA 94  
 QY 61 SLCCGHTCIDIGSFCDGRSMEBRCQREVSFLNCSLDNGCGTHCLEVGMAR 117  
 DB 95 --CHYGQCKDGLSGYSCSIDGYQKCEFEVIP-KYCKLNNDCDEQPCSTIKSKVQKDV 151  
 QY 118 CSCAPGKYGDDLLQCHPAVPCGAPWMEKRSKSLKED-----TEDQ----- 162  
 DB 152 CSCGTEIABEGCKCYKVPKGVLMKTKRSVLLPNNSTNATSDQVPSNGSIL 211  
 QY 163 -----EDQVPELIDGKMTERRGSPQVVLDSKKLACAVL 200  
 DB 212 EAVFTTTSPTPRPNSSITDPNVDTVIGVDECRPGECQVAVLINKEGEFCCGTL 271  
 QY 201 IHPGWTITAHCMDSKCLVLRGEVDLRMEKWEDELIDKEFVHPNYSKSTTDNDIAL 260  
 DB 272 LNEDFILITAHGICNOSKEIKVYGEVDREKESHTHTAKLIVHSKIATETDNDIAL 331  
 QY 261 LHLAQPATLSQITVPLCPDGLAEREI-NQAGDEITVWGYSREREKAKNRTFVLN 319  
 DB 332 IKLKEPIQSEYIVYACLPQADPANEVLNMQ--KSGWVSGRGEFPAEGLSKR-----LK 384  
 QY 320 FIKIPVYHNESGVSMNVSENNLCGLISDRQACGDSGCPMVASPHGMVFLVGN 379  
 DB 385 VLEVPYVDRSTCKQSTNPAITENMFCAGYETQKDACGDSGGPHRYKDYTFVTVGS 444  
 QY 380 WEGGCGLLHNYGYTYTGRYLDLHGHINDK 410  
 DB 445 WEGGCGARKGKYTYTLSPFLRWRYVMROK 475  
 RESULT 13  
 ID FA7\_HUMAN STANDARD; PRT; 466 AA.  
 AC P08709; Q14339;  
 DT 01-JAN-1988 (Rel. 06, Created)  
 DT 01-JAN-1988 (Rel. 06, Last sequence update)  
 DT 10-OCT-2003 (Rel. 42, Last annotation update)  
 DE Coagulation factor VII precursor (EC 3.4.21.21) (Serum prothrombin conversion accelerator) (Eptacog alfa).  
 GN F7.  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.  
 OC NCBI\_TaxID=9606;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Liver;  
 RX MEDLINE=86205965; PubMed=3486420;  
 RA Hagen F.S., Gray C.L., O'Hara P.J., Grant F.J., Saari G.C., Woodbury R.G., Hart C.E., Insley M.Y., Kietel W., Kureachi K., Davie E.W.;  
 RT "Characterization of a cDNA coding for human factor VII."  
 RL Proc. Natl. Acad. Sci. U.S.A. 83:2412-2416(1986).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=87260948; PubMed=3037537;  
 RA O'Hara P.J., Grant F.J., Haldeman B.A., Gray C.L., Insley M.Y., Hagen F.S., Murray M.J.;  
 RT "Nucleotide sequence of the gene coding for human factor VII, a vitamin K-dependent protein participating in blood coagulation."  
 RL Proc. Natl. Acad. Sci. U.S.A. 84:5158-5162(1987).  
 RN [3]  
 RP SEQUENCE FROM N.A., AND VARIANTS THR-352; GLN-413 AND IYS-445.  
 RA Rieder M.J., Armel T.Z., Carlington D.P., Chung M.-W., Lee K.L., Poel C.L., Toth E.J., Yi Q., Nickerson D.A.;  
 RL Submitted (JAN-2002) to the EMBL/GenBank/DBJ databases.  
 RN [4]  
 RP SEQUENCE OF 61-466, AND POST-TRANSLATIONAL MODIFICATIONS.

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FT ACT SITE 232 232 BY SIMILARITY.
FT ACT SITE 281 281 BY SIMILARITY.
FT ACT SITE 383 383 BY SIMILARITY.
FT BINDING 377 377 SUBSTRATE (BY SIMILARITY).
FT DISULFID 56 61 BY SIMILARITY.
FT DISULFID 89 100 BY SIMILARITY.
FT DISULFID 94 109 BY SIMILARITY.
FT DISULFID 111 120 BY SIMILARITY.
FT DISULFID 130 141 BY SIMILARITY.
FT DISULFID 137 151 BY SIMILARITY.
FT DISULFID 153 166 BY SIMILARITY.
FT DISULFID 174 301 BY SIMILARITY.
FT DISULFID 198 203 BY SIMILARITY.
FT DISULFID 217 233 BY SIMILARITY.
FT DISULFID 349 368 BY SIMILARITY.
FT DISULFID 379 407 BY SIMILARITY.
FT MOD_RES 45 45 GAMMA-CARBOXYGLUTAMIC ACID.
FT MOD_RES 46 46 GAMMA-CARBOXYGLUTAMIC ACID.
FT MOD_RES 53 53 GAMMA-CARBOXYGLUTAMIC ACID.
FT MOD_RES 55 55 GAMMA-CARBOXYGLUTAMIC ACID.
FT MOD_RES 58 58 GAMMA-CARBOXYGLUTAMIC ACID.
FT MOD_RES 59 59 GAMMA-CARBOXYGLUTAMIC ACID.
FT MOD_RES 64 64 GAMMA-CARBOXYGLUTAMIC ACID.
FT MOD_RES 65 65 GAMMA-CARBOXYGLUTAMIC ACID.
FT MOD_RES 68 68 GAMMA-CARBOXYGLUTAMIC ACID.
FT MOD_RES 74 74 GAMMA-CARBOXYGLUTAMIC ACID.
FT MOD_RES 102 102 HYDROXYLATION (BY SIMILARITY).
FT MOD_RES 102 102 N-LINKED (GLCNAC. . .) (POTENTIAL).
FT CARBOHYD 211 211 N-LINKED (GLCNAC. . .) (POTENTIAL).
FT CARBOHYD 242 242 N-LINKED (GLCNAC. . .) (POTENTIAL).
FT CARBOHYD 306 306 N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ SEQUENCE 444 AA; 49011 MW; 0481ABC4FE5427F8 CRC64;

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Query Match 34.5%; Score 802; DB 1; Length 444;

Best Local Similarity 40.2%; Pred. No. 7.3e-56;

Matches 170; Conservative 67; Mismatches 144; Indels 42; Gaps 11;

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QY 1 ANSFLEELRHSLSRECEIEICDFEAKEIFQWVDYTLAFMSKHVDGDCI.VLFEHPCA 60
DB 40 ANSFLEELRHSLSRECEIEICDFEAKEIFQWVDYTLAFMSKHVDGDCI.VLFEHPCA 93
QY 61 SLCCGHTCIDGIGSFSCDCRSWMGRPCQREVS-FLNCSLNGGCTHYCLEEYKMR-C 118
DB 94 --CQNGSGCEQIOISYICFLADPFRGNCENKNDQILCMYENGCEQYSDHYGSGRSC 151
QY 119 SCAPGYKGGDLQCHPAVAFPCGRPMKMKRSHLKTQDQDQVDQVDPRLLDGGKTR 178
DB 152 RCHGGTLLPENGSCPTTVDYPCGV-PALKRKA-----SNQGRITGVGVCK 200
QY 179 GDSPMQVLLDSKKKLACGAVLHPSWVLTAAHGMDE--SKLLVRLGEYDLRWEKME 235
DB 201 GECPMQALMNG-STLCCGSLDLDTHWVSAHGFDTLSLRNLTIVGEHDLSEHGD 259
QY 236 LDDIIEVEFHNYSKSTTNDIALIHLAQAPTSQTYVICLPDSGLAEELNQGQGT 295
DB 260 QVHHVQAQIMPKYVPEKTDHIALRLQPAALTNVVPCLPERNSESSTATT-RSS 318
QY 296 LVTGNG---YASSEKAKNRFTVNFYKIPVPHSEVW-----SNVSENMLCAG 347
DB 319 RVSGMQQLLYGALARE-----LMAIDVPRMTQDCVSGSEKRSPEVTGNMFCAG 370
QY 348 ILGDRDACEGDSGGPMVAFSGTWELVGLVSWEGGLHNYGYTYSYLDWIHGHI 407
DB 371 YLGGSKACKGSGGPHATSYHGTVTLTGVSWMGCAVGHVGYTVESRYTEMLSRIM 430
QY 408 RDK 410
DB 431 RSK 433

```

RESULT 12

PA10\_CHICK STANDARD; ERT; 475 AA.  
ID PA10\_CHICK  
AC P25155;

```

DT 01-MAY-1992 (Rel. 22, Created)
DT 01-MAY-1992 (Rel. 22, Last sequence update)
DT 15-MAR-2004 (Rel. 43, Last annotation update)
DE Coagulation factor X precursor (EC 3.4.21.6) (Stuart factor)
DE (Virus activating protease) (VAP).
GN
OC Gallus gallus (Chicken).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OC NCBI_TaxID=9031;
OX
RN (1)
RP SEQUENCE FROM N.A.
RC TISSUE=Chorioallantoic membrane;
RC MEDLINE=91257322; PubMed=2044767;
RA Suzuki H., Harada A., Hayashi Y., Wada K., Asaka J.-I., Gotch B.,
RA Ogasawara T., Nagai Y.;
RT "Primary structure of the virus activating protease from chick
RT embryo. Its identity with the blood clotting factor Xa.";
RL FEBS Lett. 283:281-285(1991).
RN (2)
RP SEQUENCE OF 41-55 AND 241-261.
RC TISSUE=Allantoic fluid;
RC MEDLINE=91065352; PubMed=2174359;
RA Gotch B., Ogasawara T., Toyoda T., Innocencio N.M., Hamaguchi M.,
RA Nagai Y.;
RT "An endoprotease homologous to the blood clotting factor X as a
RT determinant of viral tropism in chick embryo.";
RL EMBO J. 9:4189-4195(1990).
RN (3)
RP FUNCTION: Factor Xa is a vitamin K-dependent glycoprotein that
RP converts prothrombin to thrombin in the presence of factor Va,
RP calcium and phospholipid during blood clotting.
CC -1- FUNCTION: VAP cleaves the fusion proteins of Sendai virus, NDV,
CC and influenza virus a at a specific single arginine-containing
CC site, and plays a key role in the viral spreading in the allantoic
CC sac.
CC -1- CATALYTIC ACTIVITY: Preferential cleavage: Arg-|-Thr and then
CC Arg-|-Ile bonds in prothrombin to form thrombin.
CC -1- SUBUNIT: The two chains are formed from a single-chain precursor
CC by the excision of two Arg residues and are held together by 1 or
CC more disulfide bonds.
CC -1- TISSUE SPECIFICITY: Liver and chorioallantoic membrane.
CC -1- PTM: The vitamin K-dependent, enzymatic carboxylation of some
CC glutamate residues allows the modified protein to bind calcium.
CC -1- PTM: THE ACTIVATION PEPTIDE IS CLEAVED BY FACTOR IXA (IN THE
CC INTRINSIC PATHWAY), OR BY FACTOR VIIA (IN THE EXTRINSIC PATHWAY).
CC -1- SIMILARITY: Belongs to peptidase family S1.
CC -1- SIMILARITY: Contains 2 EGF-like domains.
CC
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CC or send an email to license@ebi-sib.ch).
CC
CC EMBL; D00844; BAA00724.1; -.
CC PIR; S15838; EXCH.
CC HSP; P00742; IHCG.
CC
CC MEROPS; S01.216; -.
CC InterPro; IPR000152; Asx_hydroxyl_S.
CC InterPro; IPR009003; Cys_ser_trypsin.
CC InterPro; IPR000742; EGF 2.
CC InterPro; IPR001881; EGF Ca.
CC InterPro; IPR001438; EGF II.
CC InterPro; IPR006209; EGF like.
CC InterPro; IPR002383; GLA_blood.
CC InterPro; IPR001254; Peptidase_S1.
CC InterPro; IPR001314; Peptidase_S1A.
CC InterPro; IPR000294; VICK_dep_GLA.
CC Pfam; PF00008; EGF_2.
CC Pfam; PF00594; gla_1.

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DR EMBL; X00673; CAA25286.1; -  
 DR PIR; A22867; EXBO.  
 DR PDB; 1A9O; 31-JAN-94.  
 DR PDB; 1CCF; 31-MAY-94.  
 DR PDB; 1W6E; 15-MAY-97.  
 DR PDB; 1W6F; 15-MAY-97.  
 DR PDB; 11OD; 21-JAN-03.  
 DR PDB; 1KIG; 28-OCT-98.  
 DR MEROP; S01.216; -  
 DR GlycositeDB; P00743; -  
 DR InterPro; IPR00152; Aex\_hydroxyl\_S.  
 DR InterPro; IPR009003; Cys\_Ser\_trypsin.  
 DR InterPro; IPR00742; EGF\_2.  
 DR InterPro; IPR001881; EGF\_Ca.  
 DR InterPro; IPR006209; EGF\_like.  
 DR InterPro; IPR002383; GLA\_blood.  
 DR InterPro; IPR001254; Peptidase\_S1.  
 DR InterPro; IPR001314; Peptidase\_S1A.  
 DR InterPro; IPR000294; Vltk\_dep\_GLA.  
 DR Pfam; PF00594; gla; 2.  
 DR Pfam; PF00594; gla; 1.  
 DR Pfam; PF00594; gla; 1.  
 DR PRINTS; PR00089; trypsin; 1.  
 DR PRINTS; PR00722; CHYMOTRYPSIN.  
 DR PRINTS; PR00001; GLALOOD.  
 DR SMART; SM00179; EGF\_CA; 1.  
 DR SMART; SM00069; GLA; 1.  
 DR SMART; SM00020; TYP\_Spc; 1.  
 DR PROSITE; PS00010; ASX\_HYDROXYL; 1.  
 DR PROSITE; PS00022; EGF\_1; 1.  
 DR PROSITE; PS01186; EGF\_2; 2.  
 DR PROSITE; PS50026; EGF\_3; 1.  
 DR PROSITE; PS00187; EGF\_CA; 1.  
 DR PROSITE; PS00011; GLT\_CARBOXYLATION; 1.  
 DR PROSITE; PS00240; TRYPSIN\_DOM; 1.  
 DR PROSITE; PS00134; TRYPSIN\_HIS; 1.  
 DR PROSITE; PS00135; TRYPSIN\_SER; 1.  
 DR GlycoProtein; Hydroxylase; Serine protease; Plasma; Blood coagulation;  
 KW Gamma-carboxyglutamic acid; Hydroxylation; Calcium-binding; Vitamin K;  
 FX Signal; Zymogen; EGF-like domain; Repeat; Sulfation; 3D-structure.  
 FT SIGNAL; 1 23  
 FT PROPEP 24 40  
 FT CHAIN 41 180  
 FT CHAIN 183 492  
 FT PROPEP 183 233  
 FT CHAIN 234 492  
 FT PROPEP 476 492  
 FT DOMAIN 86 122  
 FT DOMAIN 125 165  
 FT DOMAIN 234 492  
 FT ACT SITE 275 275  
 FT ACT SITE 321 321  
 FT ACT SITE 418 418  
 FT MOD RES 46 46  
 FT MOD RES 47 47  
 FT MOD RES 54 54  
 FT MOD RES 56 56  
 FT MOD RES 59 59  
 FT MOD RES 60 60  
 Query Match 34.8%; Score 809.5; DB 1; Length 492;  
 Best Local Similarity 36.8%; Pred. No. 2.1e-56;  
 Matches 172; Conservative 72; Mismatches 150; Indels 73; Gaps 13;

QY 1 ANSFLEELHSSLERECIEICDFEBAKEIFQNVDTTAFMSKVDGQCLVLEHPQA 60  
 DQ 41 ANSFLEELHSSLERECIEICDFEBAKEIFQNVDTTAFMSKVDGQCLVLEHPQA 60  
 61 SLCCGHTGCTIDGSGSCDCRSGMGRFCQ---REVSLFNLGSLNGSCHYCLLEVMGR 117

DB 97 N-----QGHCKGIGIDYDCTAGAFGKNCERSTREI-----GIDNGGCDGFCHEHSEVR 148  
 QY 118 CSCAPGYKLGDDLLQCHPAKPEPCR-FMKMEKRSKSHKRPDTE--QEDQVP----- 168  
 DB 149 CSCAHGYVLDGSDSCVSTERPFCKPFQGSRRMAIHSESDALDASLEHYDPADLSPT 208  
 QY 169 -----RLTGKNTRGSDSPQVVLDSKKLACGANLIHRS 204  
 DB 209 ESSLDLLGLNTERPSAGEDSGVVRIVGGRDCAEGCEPMQALVNEEGCGGTLINEP 268  
 QY 205 WYLLAHCHNDSKULVRLGEVDRRWKEMELDDIDIEVYVHPNYSKSTNDTALILHA 264  
 DB 269 VYLLAHCHNDSKULVRLGEVDRRWKEMELDDIDIEVYVHPNYSKSTNDTALILHA 328  
 QY 265 QPATICOTVPICLPDSGLAERELNAGQET-LVTGWYHSSREKARRNFTVPLNFIKI 323  
 DB 329 TPFRFRNVAFCAPLPEQWMAETL--MQKGTIVSGG-----RTHEKGRSLTKMLLEV 381  
 QY 324 PVPENHCESEVMSNWSSENLCACTIGRBDACGSDGGMWASPHGTWPLVGVSMGEG 383  
 DB 382 PVDYRSTCKLSSFTTPNMFCAGYDTPEDACQSDGSHVTRFDYTFVGLVSMGEG 441  
 QY 384 GGLAHNGVYTVKVSRYLDWI-----HGHRDKEAPQKSM 417  
 DB 442 CARCKRGYITVSNFLKMDIKMKARAGASRGH---SEAF-ATW 484

RESULT 10  
 ID PA10 HUMAN STANDARD; PRT; 488 AA.  
 AC P00742; Q14340;  
 DT 21-JUL-1986 (Rel. 01, Created)  
 DR 01-OCT-1988 (Rel. 12, Last sequence update)  
 DT 10-OCT-2003 (Rel. 42, Last annotation update)  
 DE Coagulation factor X precursor (EC 3.4.21.6) (Stuart factor).  
 GN F10.  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.  
 OC NCBI\_Taxid=9606;  
 RN [1]  
 RP MEDLINE=91216473; PubMed=1902434;  
 RA Wessler T.U., Pittman D.D., Long G.L., Kaufman R.J., Church W.R.;  
 RT "Cloning and expression in COS-1 cells of a full-length cDNA encoding  
 RL human coagulation factor X.";  
 RN Gene 99:291-294 (1991).  
 RN [2]  
 RP MEDLINE=87026600; PubMed=3768336;  
 RA Leytus S.P., Foster D.C., Kurachi K., Davie E.W.;  
 RT "Gene for human factor X: a blood coagulation factor whose gene  
 RL organization is essentially identical with that of factor IX and  
 RL protein C.";  
 RL Biochemistry 25:5098-5102 (1986).  
 RN [3]  
 RP MEDLINE=22388257; PubMed=12477932;  
 RC TISSUE=Ovary;  
 RX Strauberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,  
 RA Klausner R.D., Collins F.S., Wagner L., Shennan C.M., Schuler G.D.,  
 RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,  
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,  
 RA Diachenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,  
 RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,  
 RA Brownstein M.J., Ueda T.B., Toshiyuki S., Carninci P., Pringle C.,  
 RA Raha S.S., Loggellano N.A., Peters G.J., Abramson R.D., Mullaly S.J.,



DB 386 NSCKRSSFTTQNNFCAGYDARPEACOGSGGPHVTRFDYTFVTGIVSGEGCARKG 445  
 OY 389 NGVYTKSRXLYLWTHGHTRKEAP 413  
 DB 446 KFGVYTKSNFLMKIEKSMRAAVP 470

RESULT 9  
 FA10 BOVIN STANDARD; PRT; 492 AA.  
 AC P00743;  
 DT 21-JUL-1986 (Rel. 01, Created)  
 DT 13-AUG-1987 (Rel. 05, Last sequence update)  
 DT 15-MAR-2004 (Rel. 43, Last annotation update)  
 DE Coagulation factor X precursor (EC 3.4.21.6) (Stuart factor).  
 GN F10.  
 OS Bos taurus (Bovine).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;  
 OC Bovidae; Bovinae; Bos.  
 OC NCBI\_TaxId=9913;  
 OK [1]  
 RP SEQUENCE OF 1-487 FROM N.A.  
 RP MEDLINE=84247315; PubMed=6330671;  
 RA Fung M.R., Campbell R.M., McGillivray R.T.A.;  
 RT "Blood coagulation factor X mRNA encodes a single polypeptide chain  
 containing a prepro leader sequence."  
 RL Nucleic Acids Res. 12:4481-4492 (1984).  
 RN [2]  
 RP SEQUENCE OF 41-180.  
 RP MEDLINE=80130563; PubMed=6766735;  
 RA Enfield D.L., Ericsson L.H., Fujikawa K., Walsh K.A., Neurath H.,  
 RA Titani K.;  
 RT "Amino acid sequence of the light chain of bovine factor XI (Stuart  
 factor)."  
 RL Biochemistry 19:659-667 (1980).  
 RN [3]  
 RP REVISION TO 103.  
 RP MEDLINE=83308813; PubMed=6688526;  
 RA McMullen B.A., Fujikawa K., Kisiel W.;  
 RT "The occurrence of beta-hydroxyaspartic acid in the vitamin  
 K-dependent blood coagulation zymogens."  
 RL Biochem. Biophys. Res. Commun. 115:8-14 (1983).  
 RN [4]  
 RP SEQUENCE OF 183-492, CARBOHYDRATE-LINKAGE SITES, AND DISULFIDE BONDS.  
 RP MEDLINE=76053069; PubMed=1053093;  
 RA Titani K., Fujikawa K., Enfield D.L., Ericsson L.H., Walsh K.A.,  
 RA Neurath H.;  
 RT "Bovine factor XI (Stuart factor): amino-acid sequence of heavy  
 chain."  
 RL Proc. Natl. Acad. Sci. U.S.A. 72:3082-3086 (1975).  
 RN [5]  
 RP SEQUENCE OF 183-233, AND CARBOHYDRATE-LINKAGE SITES.  
 RP MEDLINE=94062825; PubMed=8243461;  
 RA Inoue K., Morita T.;  
 RT "Identification of O-linked oligosaccharide chains in the activation  
 peptides of blood coagulation factor X. The role of the carbohydrate  
 moieties in the activation of factor X."  
 RL Eur. J. Biochem. 218:153-163 (1993).  
 RN [6]  
 RP ACTIVE SITE.  
 RP MEDLINE=7305314; PubMed=4264286;  
 RA Titani K., Hemmerson M.A., Fujikawa K., Ericsson L.H., Walsh K.A.,  
 RA Neurath H., Davie E.W.;  
 RT "Bovine factor X Ia (activated Stuart factor). Evidence of homology  
 with mammalian serine proteases."  
 RL Biochemistry 11:4899-4903 (1972).  
 RN [7]  
 RP PROCESSING.  
 RP MEDLINE=76053121; PubMed=1059122;  
 RA Fujikawa K., Titani K., Davie E.W.;  
 RT "Activation of bovine factor X (Stuart factor): conversion of factor  
 Xa-alpha to factor Xa-beta.";

RL Proc. Natl. Acad. Sci. U.S.A. 72:3359-3363 (1975).  
 RN [8]  
 RP CALCIUM-BINDING DATA.  
 RP MEDLINE=84185716; PubMed=6546930;  
 RA Sugo T., Björk I., Holmgren A., Stenflo U.;  
 RT "Calcium-binding properties of bovine factor X lacking the gamma-  
 carboxyglutamic acid-containing region."  
 RL J. Biol. Chem. 259:5705-5710 (1984).  
 RN [9]  
 RP SUBUNIT.  
 RP MEDLINE=86140210; PubMed=3949800;  
 RA Morita T., Jackson C.W.;  
 RT "Localization of the structural difference between bovine blood  
 coagulation factors XI and X2 to tyrosine 18 in the activation  
 peptide."  
 RL J. Biol. Chem. 261:4008-4014 (1986).  
 RN [10]  
 RP STRUCTURE BY NMR OF 85-126.  
 RP MEDLINE=91084483; PubMed=2261466;  
 RA Selander M., Persson E., Stenflo U., Drakenberg T.;  
 RT "1H NMR assignment and secondary structure of the Ca2(+)-free form of  
 the amino-terminal epidermal growth factor like domain in coagulation  
 factor X."  
 RL Biochemistry 29:8111-8118 (1990).  
 RN [11]  
 RP STRUCTURE BY NMR OF 85-126.  
 RP MEDLINE=92329412; PubMed=1627540;  
 RA Ullner M., Selander M., Persson E., Stenflo U., Drakenberg T.,  
 RA Telman O.;  
 RT "Three-dimensional structure of the apo form of the N-terminal  
 EGF-like module of blood coagulation factor X as determined by NMR  
 spectroscopy and simulated folding."  
 RL Biochemistry 31:5974-5983 (1992).  
 RN [12]  
 RP STRUCTURE BY NMR OF 85-126.  
 RP MEDLINE=92406922; PubMed=1527084;  
 RA Selander M., Ullner M., Persson E., Telman O.,  
 RA Stenflo U., Drakenberg T.;  
 RT "How an epidermal growth factor (EGF)-like domain binds calcium. High  
 resolution NMR structure of the calcium form of the NH2-terminal EGF-  
 like domain in coagulation factor X."  
 RL J. Biol. Chem. 267:19642-19649 (1992).  
 RN [13]  
 RP STRUCTURE BY NMR OF 41-126.  
 RP MEDLINE=96387194; PubMed=8794734;  
 RA Sumnerhagen M., Olah G.A., Stenflo U., Forren S., Drakenberg T.,  
 RA Trewhella J.;  
 RT "The relative orientation of Glu and EGF domains in coagulation  
 factor X is altered by Ca2+ binding to the first EGF domain. A  
 combined NMR-small angle X-ray scattering study."  
 RL Biochemistry 35:11547-11559 (1996).  
 RN -1-  
 RP FUNCTION: Factor Xa is a vitamin K-dependent glycoprotein that  
 converts prothrombin to thrombin in the presence of factor Va,  
 calcium and phospholipid during blood clotting.  
 CC -1-  
 RP CATALYTIC ACTIVITY: Preferential cleavage: Arg-|-Thr and then  
 Arg-|-Ile bonds in prothrombin to form thrombin.  
 CC -1-  
 RP SUBUNIT: The two chains are formed from a single-chain precursor  
 by the excision of two Arg residues and are held together by 1 or  
 more disulfide bonds.  
 CC -1-  
 RP PTM: The vitamin K-dependent, enzymatic carboxylation of some  
 glutamate residues allows the modified protein to bind calcium.  
 CC -1-  
 RP PTM: N- and O-glycosylated.  
 CC -1-  
 RP PTM: THE ACTIVATION PEPTIDE IS CLEAVED BY FACTOR IXA (IN THE  
 INTRINSIC PATHWAY), OR BY FACTOR VIIA (IN THE EXTRINSIC PATHWAY).  
 CC -1-  
 RP MISCELLANEOUS: Calcium also binds, with stronger affinity to  
 another site, beyond the GLA domain.  
 CC -1-  
 RP SIMILARITY: Belongs to peptidase family S1.  
 CC -1-  
 RP SIMILARITY: Contains 2 EGF-like domains.  
 CC  
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FT DISULFID 100 105 BY SIMILARITY.  
 FT DISULFID 104 119 BY SIMILARITY.  
 FT DISULFID 121 130 BY SIMILARITY.  
 FT DISULFID 139 150 BY SIMILARITY.  
 FT DISULFID 146 159 BY SIMILARITY.  
 FT DISULFID 161 174 BY SIMILARITY.  
 FT DISULFID 182 319 INTERCHAIN (BY SIMILARITY).  
 FT DISULFID 238 254 BY SIMILARITY.  
 FT DISULFID 328 328 BY SIMILARITY.  
 FT DISULFID 398 426 BY SIMILARITY.  
 FT CARBOHYD 214 214 N-LINKED (GLCNAC. . .) (POTENTIAL).  
 FT CARBOHYD 290 290 N-LINKED (GLCNAC. . .) (POTENTIAL).  
 FT CARBOHYD 355 355 N-LINKED (GLCNAC. . .) (POTENTIAL).  
 FT CONFLICT 328 328 MISSING (IN REF. 2).  
 FT CONFLICT 393 393 N -> D (IN REF. 2).  
 SQ SEQUENCE 461 AA, 51945 MW, 53FAAD05B1940DE CRC64;

Query Match 70.6%; Score 1641.5; DB 1; Length 461;  
 Best Local Similarity 69.6%; Pred. No. 5.2e-122;  
 Matches 291; Conservative 57; Mismatches 67; Indels 3; Gaps 2;

QY 1 ANSFELRHSTRECEIEICDPREAKEITONVDITLAFMSKHYDGPQCLVPLEHPGA 60  
 42 ANSFLEMPGSLERECHEBECDFEAPQITFQWEDTLAFKIFDQCSAPPDHCOD 101  
 61 SLCCGHTCIDIGISFSCDCRSQWEGRFGQREVSFLNCSLDNGGCTHYCLEEVMGRCSG 120  
 102 SPCCGHTCIDIGISFSCDCRSQWEGRFGQREVSFLNCSLDNGGCTHYCLEEVMGRCSG 161  
 121 APGKYLGDLLQCHPAVFPQGRPMKMEKRSKSLKADTDEDDQV--DPRLLDGMKTR 178  
 162 APGELADDMKCKSTVNFPCGKLGKMEKRSKSLKADTDEDDQV--DPRLLDGMKTR 220  
 179 GDSPPVNVLLDSKKKLCAGAVLHPSPVLTAAHGMDSKSLVRLGEYDLRRMEKVELD 238  
 221 GDSPPVNVLLDSKKKLCAGAVLHPSPVLTAAHGMDSKSLVRLGEYDLRRMEKVELD 280  
 239 DIKEVFNHNSKSTTNDIALHLAOPATLSQITVPCLPDSGLAEELNOAQEITV 298  
 261 DIKEVFNHNSKSTTNDIALHLAOPATLSQITVPCLPDSGLAEELNOAQEITV 340  
 299 GKGSHSREKAKRRTFVNFKIPVPHNECEVSMNVSNMLCAGILGDRODAGC 358  
 341 GKGSHSREKAKRRTFVNFKIPVPHNECEVSMNVSNMLCAGILGDRODAGC 400  
 359 DSGGPMVAFHGTWFLVGLVSMGEGGLHNYGVTVYSRYLDMHIGIRDEKAPQKS 416  
 401 DSGGPMVAFHGTWFLVGLVSMGEGGLHNYGVTVYSRYLDMHIGIRDEKAPQKS 458

Db  
 QY 239 DIKEVFNHNSKSTTNDIALHLAOPATLSQITVPCLPDSGLAEELNOAQEITV 298  
 261 DIKEVFNHNSKSTTNDIALHLAOPATLSQITVPCLPDSGLAEELNOAQEITV 340  
 299 GKGSHSREKAKRRTFVNFKIPVPHNECEVSMNVSNMLCAGILGDRODAGC 358  
 341 GKGSHSREKAKRRTFVNFKIPVPHNECEVSMNVSNMLCAGILGDRODAGC 400  
 359 DSGGPMVAFHGTWFLVGLVSMGEGGLHNYGVTVYSRYLDMHIGIRDEKAPQKS 416  
 401 DSGGPMVAFHGTWFLVGLVSMGEGGLHNYGVTVYSRYLDMHIGIRDEKAPQKS 458

QY 359 DSGGPMVAFHGTWFLVGLVSMGEGGLHNYGVTVYSRYLDMHIGIRDEKAPQKS 416  
 401 DSGGPMVAFHGTWFLVGLVSMGEGGLHNYGVTVYSRYLDMHIGIRDEKAPQKS 458

Db  
 QY 359 DSGGPMVAFHGTWFLVGLVSMGEGGLHNYGVTVYSRYLDMHIGIRDEKAPQKS 416  
 401 DSGGPMVAFHGTWFLVGLVSMGEGGLHNYGVTVYSRYLDMHIGIRDEKAPQKS 458

RESULT 7  
 PRTC MACMU STANDARD; PRT: 161 AA.

AC 028506;  
 DT 15-DEC-1998 (Rel. 37, Created)  
 DT 15-DEC-1998 (Rel. 37, Last sequence update)  
 DT 10-OCT-2003 (Rel. 42, Last annotation update)  
 DE Vitamin-K-dependent protein C (EC 3.4.21.69) (Autoproteolysis IIA)  
 GN (Anticoagulant protein C) (Blood coagulation factor XIV) (Fragment).  
 OS PROC.  
 OS Macaca mulatta (Rhesus macaque).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;  
 OC Cercopithecoidea; Macaca.  
 OC NCBI\_TaxID=9544;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=94318474; PubMed=8043441;  
 RA Murakawa M., Okamura T., Kamura T., Kuroiwa M., Harada M., Niho Y.;  
 RT "A comparative study of partial primary structures of the catalytic  
 RT region of mammalian protein C.";  
 RT Br. J. Haematol. 86:590-600 (1994).  
 CC -!- FUNCTION: Protein C is a vitamin K-dependent serine protease that

CC regulates blood coagulation by inactivating factors Va and VIIIa  
 CC in the presence of calcium ions and phospholipids.  
 CC -!- CATALYTIC ACTIVITY: Degradation of blood coagulation factors Va  
 CC and VIIIa.  
 CC -!- TISSUE SPECIFICITY: Plasma; synthesized in the liver.  
 CC -!- SIMILARITY: Belongs to peptidase family S1.  
 CC -----  
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 CC or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).  
 CC -----  
 CC EMBL: D43754; BAA07811.1; --  
 CC HSSP: P04070; IPCU.  
 DR MEROPS: S01.218; --  
 DR InterPro: IPR009003; Cys\_Ser\_trypsin.  
 DR InterPro: IPR001254; Peptidase\_S1.  
 DR InterPro: IPR001314; Peptidase\_S1A.  
 DR Pfam: PF00089; trypsin. 1.  
 DR PRINTS: PR00722; CHYMOTRYPSIN.  
 DR SMART: SM00020; Tryp\_Spc. 1.  
 DR PROSITE: PS00240; TRYPSIN\_DOM. 1.  
 DR PROSITE: PS00134; TRYPSIN\_HIS\_PARTIAL.  
 DR PROSITE: PS00135; TRYPSIN\_SER. 1.  
 KM Blood coagulation; Glycoprotein; serine protease; Hydrolyase.  
 FT NON TER 1  
 FT ACT\_SITE 26 26 CHARGE RELAY SYSTEM.  
 FT ACT\_SITE 129 129 CHARGE RELAY SYSTEM.  
 FT DISULFID 100 114 BY SIMILARITY.  
 FT DISULFID 125 153 BY SIMILARITY.  
 FT CARBOHYD 17 17 N-LINKED (GLCNAC. . .) (POTENTIAL).  
 FT CARBOHYD 82 82 N-LINKED (GLCNAC. . .) (POTENTIAL).  
 FT NON TER 161  
 SQ SEQUENCE 161 AA, 17770 MW, 27D78F185B2FCC69 CRC64;

Query Match 35.9%; Score 835; DB 1; Length 161;  
 Best Local Similarity 95.7%; Pred. No. 5.6e-59;  
 Matches 154; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

QY 232 EKWEELDDIEVFNHNSKSTTNDIALHLAOPATLSQITVPCLPDSGLAEELNOA 291  
 1 EKWEELDDIEVFNHNSKSTTNDIALHLAOPATLSQITVPCLPDSGLAEELNOA 60  
 292 GOETLVGMGYHSSREKAKRRTFVNFKIPVPHNECEVSMNVSNMLCAGILGD 351  
 61 GOETLVGMGYHSSREKAKRRTFVNFKIPVPHNECEVSMNVSNMLCAGILGD 120

Db  
 QY 292 GOETLVGMGYHSSREKAKRRTFVNFKIPVPHNECEVSMNVSNMLCAGILGD 351  
 61 GOETLVGMGYHSSREKAKRRTFVNFKIPVPHNECEVSMNVSNMLCAGILGD 120

QY 292 GOETLVGMGYHSSREKAKRRTFVNFKIPVPHNECEVSMNVSNMLCAGILGD 351  
 61 GOETLVGMGYHSSREKAKRRTFVNFKIPVPHNECEVSMNVSNMLCAGILGD 120

Db  
 QY 292 GOETLVGMGYHSSREKAKRRTFVNFKIPVPHNECEVSMNVSNMLCAGILGD 351  
 61 GOETLVGMGYHSSREKAKRRTFVNFKIPVPHNECEVSMNVSNMLCAGILGD 120

QY 352 RODACEGDSGPMVAFHGTWFLVGLVSMGEGGLHNYGV 392  
 121 RODACEGDSGPMVAFHGTWFLVGLVSMGEGGLHNYGV 161

Db  
 QY 352 RODACEGDSGPMVAFHGTWFLVGLVSMGEGGLHNYGV 392  
 121 RODACEGDSGPMVAFHGTWFLVGLVSMGEGGLHNYGV 161

RESULT 8  
 FA10\_RABIT STANDARD; PRT: 490 AA.

AC 019045;  
 DT 15-DEC-1998 (Rel. 37, Created)  
 DT 15-DEC-1998 (Rel. 37, Last sequence update)  
 DT 10-OCT-2003 (Rel. 42, Last annotation update)  
 DE Coagulation factor X precursor (EC 3.4.21.6) (Stuart factor).  
 GN F10.  
 OS Oryctolagus cuniculus (Rabbit).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.  
 OC NCBI\_TaxID=9986;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=97256311; PubMed=9101642;  
 RA Penduth U.R., Anderson K.D., James H.J.;  
 RT "Characterization of a full-length cDNA for rabbit factor X.";  
 RT

```

OY 299 GWGTHSREREKAKRRRTVNFILKIVWEFHNDCSGWMSNM/CAGLIGDPOACSG 358
Db 341 GWGQSDPKYKDGRRNRFTLFTLRILPLAARDNCQWMMNVVSNM/CAGLIGDRDPCG 400
OY 359 DSGGPMVASHGHWGFWFVAGVWMEGCGCLAHNYGVYTKVSRYLDMIGHIRDEKAPKS 416
Db 401 DSGGPMVAFRGTFWFLVGLVWMEGCGHLANNVGYTKVGSYLVKMSHYIGRDVSLKS 458

RESULT 6
PRTC_MOUSE STANDARD; PRT; 461 AA.
ID PRTC_MOUSE
AC P33587; 035498;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DE 10-OCT-2003 (Rel. 42, Last annotation update)
DE Vitamin-K-dependent protein C precursor (EC 3.4.21.69)
DE (Autoproteohembin IIA) (Anticoagulant protein C) (Blood coagulation factor XIV).
DE PROC.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Cranialta; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=92316897; PubMed=1618739;
RA Tada N., Sato M., Tejimura A., Iwase R., Hashimoto-Gotoh T.,
RT "Isolation and characterization of a mouse protein C cDNA.";
RN J. Biochem. 111:491-495 (1992).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=129/SvJ;
RX MEDLINE=98152576; PubMed=9493582;
RA Jabbert L.R., Rosen E.D., Lissens A., Carmeliet P., Collen D.,
RT "Nucleotide structure and characterization of the murine gene encoding
RL Thromb. Haemost. 79:310-316 (1998).
RN [3]
RP SEQUENCE OF 274-434 FROM N.A.
RC STRAIN=BALB/c;
RX MEDLINE=94318474; PubMed=8043441;
RA Murakawa M., Okamura T., Kamura T., Kuroiwa M., Harada M., Niho Y.;
RT "A comparative study of partial primary structures of the catalytic
RL region of mammalian protein C.";
RN Br. J. Haematol. 86:590-600 (1994).
CC -1- FUNCTION: Protein C is a vitamin K-dependent serine protease that
CC regulates blood coagulation by inactivating factors Va and VIIa
CC in the presence of calcium ions and phospholipids.
CC -1- CATALYTIC ACTIVITY: Degradation of blood coagulation factors Va
CC and VIIa.
CC -1- SYNBIUT: Synthesized as a single chain precursor, which is cleaved
CC into a light chain and a heavy chain held together by a disulfide
CC bond. The enzyme is then activated by thrombin, which cleaves a
CC tetradecapeptide from the amino end of the heavy chain; this
CC reaction, which occurs at the surface of endothelial cells, is
CC strongly promoted by thrombomodulin.
CC -1- TISSUE SPECIFICITY: Plasma; synthesized in the liver.
CC -1- PTM: The vitamin K-dependent, enzymatic carboxylation of some Glu
CC residues allows the modified protein to bind calcium.
CC -1- MISCELLANEOUS: Calcium also binds, with stronger affinity to
CC another site, beyond the Gla domain. This Gla-independent binding
CC site is necessary for the recognition of the thrombin-
CC thrombomodulin complex.
CC -1- SIMILARITY: Belongs to peptidase family S1.
CC -1- SIMILARITY: Contains 2 EGF-like domains.
CC -----
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CC	or send an email to <a href="mailto:license@isb-stb.ch">license@isb-stb.ch</a> ).
CC	-----
DR	EMBL; D10445; BAA01235.1; --
DR	EMBL; AF034569; AAC33795.1; --
DR	EMBL; DA3755; BAA07812.1; --
DR	PIR; OX0210; OX0210.
DR	HSSP; P04070; IPCU.
DR	MEDS; S01.218; --
DR	MEDS; MGI:97771; Proc.
DR	InterPro; IPR0000153; Aex_hydroxyl_S.
DR	InterPro; IPR009003; Cys_Ser_trypsin.
DR	InterPro; IPR001881; EGF_Ca.
DR	InterPro; IPR006209; EGF_like.
DR	InterPro; IPR002383; G1A_Blood.
DR	InterPro; IPR001254; Peptidase_S1.
DR	InterPro; IPR00314; Peptidase_S1a.
DR	InterPro; IPR000294; Vltx_dep_G1A.
DR	Pfam; PF00006; EGF; 2.
DR	Pfam; PF00594; g1a; 1.
DR	Pfam; PF00089; trypsin; 1.
DR	PRINTS; PR00722; CHYMOTRYPSIN.
DR	PRINTS; PR00001; GLAELD.
DR	SMART; SM00179; EGF_CA; 1.
DR	SMART; SM00069; GLA; 1.
DR	PROSITE; PS00010; Tryp_Seq; 1.
DR	PROSITE; PS00010; ASK_HYDROXYL; 1.
DR	PROSITE; PS00022; EGF_1; 1.
DR	PROSITE; PS01186; EGF_2; 2.
DR	PROSITE; PS50026; EGF_3; 1.
DR	PROSITE; PS01187; EGF_CA; 1.
DR	PROSITE; PS00011; GLUT_CARBOXYLATION; 1.
DR	PROSITE; PS50240; TRYPSIN_DOM; 1.
DR	PROSITE; PS00134; TRYPSIN_HIS; 1.
DR	PROSITE; PS00135; TRYPSIN_SER; 1.
KW	Blood coagulation; Glycoprotein; Serine protease;
KW	Gamma-carboxyglutamic acid; Calcium-binding; Vitamin K; Hydroxylation;
KW	EGF-like domain; Repeat; Endothelial cell; Hydrolyase; Signal.
FT	STOML 1 33
FT	PROPEP 3 4 41
FT	CHAIN 42 126
FT	CHAIN 199 461
FT	PEPTIDE 199 212
FT	SITE 212 213
FT	DOMAIN 96 131
FT	DOMAIN 135 175
FT	DOMAIN 213 461
FT	MOD_RES 47 47
FT	MOD_RES 48 48
FT	MOD_RES 55 55
FT	MOD_RES 57 57
FT	MOD_RES 60 60
FT	MOD_RES 61 61
FT	MOD_RES 66 66
FT	MOD_RES 67 67
FT	MOD_RES 70 70
FT	MOD_RES 112 112
FT	ACT_SITE 253 253
FT	ACT_SITE 299 299
FT	ACT_SITE 402 402
FT	DISULFID 63 63
FT	DISULFID 91 110

DE (Autoproteolysin IIA) (Anticoagulant protein C) (Blood coagulation factor XIV).

GN PROC.

OS Rattus norvegicus (Rat).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.

OX NCBI\_TaxID=10116;

RN [1]

RP SEQUENCE FROM N.A.

RC STRAIN=Miscar; TISSUE=Liver;

RX MEDLINE=92329550; PubMed=1627650;

RA Okafuji T., Maekawa K., Nawa K., Marumoto Y.;

RT "The cDNA cloning and mRNA expression of rat protein C.,"

RL Biochim. Biophys. Acta 1131:329-332(1992).

CC -1- FUNCTION: Protein C is a vitamin K-dependent serine protease that regulates blood coagulation by inactivating factors Va and VIIIa in the presence of calcium ions and phospholipids.

CC -1- CATALYTIC ACTIVITY: Degradation of blood coagulation factors Va and VIIIa.

CC -1- SUBUNIT: Synthesized as a single chain precursor, which is cleaved into a light chain and a heavy chain held together by a disulfide bond. The enzyme is then activated by thrombin, which cleaves a tetradecapeptide from the amino end of the heavy chain; this reaction, which occurs at the surface of endothelial cells, is strongly promoted by thrombomodulin.

CC -1- TISSUE SPECIFICITY: Plasma; synthesized in the liver.

CC -1- PTM: The vitamin K-dependent, enzymatic carboxylation of some Glu residues allows the modified protein to bind calcium.

CC -1- MISCELLANEOUS: Calcium also binds, with stronger affinity to another site, beyond the Gla domain. This Gla-independent binding site is necessary for the recognition of the thrombin-thrombomodulin complex.

CC -1- SIMILARITY: Belongs to the recognition of the thrombin-thrombomodulin complex.

CC -1- SIMILARITY: Contains 2 EGF-like domains.

CC -----

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CC -----

CC EMBL: X64336; CAA45617.1; -

DR PIR: S18994; S18994.

DR HSSP: P04070; 1PCU.

DR MEROPS: S01.218; -

DR InterPro: IPR000152; Asx\_hydroxyl\_S.

DR InterPro: IPR009003; Cys\_Ser\_trypsin.

DR InterPro: IPR001881; EGF\_Ca.

DR InterPro: IPR006209; EGF\_like.

DR InterPro: IPR002383; Gla\_blood.

DR InterPro: IPR001314; Peptidase\_S1.

DR InterPro: IPR00294; VitK\_dep\_Gla.

DR Pfam: PF00008; EGF\_2.

DR Pfam: PF00594; Gla; 1.

DR Pfam: PF00089; trypsin; 1.

DR PRINTS: PR00722; CHYMOTRYPSIN.

DR PRINTS: PRO0001; GLABLOOD.

DR SMART: SM00179; EGF\_CA; 1.

DR SMART: SM00069; GLA; 1.

DR SMART: SM00020; TRYP\_SPE; 1.

DR PROSITE: PS00010; ASX\_HYDROXYL; 1.

DR PROSITE: PS00022; EGF\_1; 1.

DR PROSITE: PS01186; EGF\_2; 2.

DR PROSITE: PS00026; EGF\_3; 1.

DR PROSITE: PS01187; EGF\_CA; 1.

DR PROSITE: PS00011; GLU\_CARBOXYLATION; 1.

DR PROSITE: PS00240; TRYPSIN\_DOM; 1.

DR PROSITE: PS00134; TRYPSIN\_HIS; 1.

DR PROSITE: PS00135; TRYPSIN\_SER; 1.

KW Blood coagulation; Glycoprotein; Serine protease;

KW Gamma-carboxyglutamic acid; Calcium-binding; Vitamin K; Hydroxylation; EGF-like domain; Repeat; Endothelial cell; Hydrolase; Signal.

KM EGF-like domain; Repeat; Endothelial cell; Hydrolase; Signal.

FT SIGNAL 32

FT PROPEP 33 41

FT CHAIN 42 196

FT CHAIN 199 461

FT PEPTIDE 199 212

FT SITE 212 213

FT DOMAIN 96 131

FT DOMAIN 135 175

FT DOMAIN 213 461

FT MOD\_RES 47 47

FT MOD\_RES 48 48

FT MOD\_RES 55 55

FT MOD\_RES 57 57

FT MOD\_RES 60 60

FT MOD\_RES 61 61

FT MOD\_RES 66 66

FT MOD\_RES 67 67

FT MOD\_RES 70 70

FT MOD\_RES 112 112

FT ACT\_SITE 254 254

FT ACT\_SITE 300 300

FT ACT\_SITE 402 402

FT DISULFID 58 63

FT DISULFID 91 110

FT DISULFID 100 105

FT DISULFID 104 119

FT DISULFID 121 130

FT DISULFID 139 150

FT DISULFID 146 159

FT DISULFID 161 174

FT DISULFID 182 320

FT DISULFID 239 255

FT DISULFID 373 387

FT DISULFID 398 426

FT CARBOHYD 215 215

FT CARBOHYD 291 291

FT CARBOHYD 355 355

SO SEQUENCE 461 AA; 51912 MW; 8A4CF93664EDACD5 CRC64;

Query Match 71.2%; Score 1654.5; DB 1; Length 461;

Best Local Similarity 69.4%; Pred. No. 4.9e-123;

Matches 290; Conservative 56; Mismatches 69; Indels 3; Gaps 2;

QY 1 ANSTELHSLRECEKEIPEEAKETIPONDPLTAWSHVDGQCVLLEHPCA 60

DB 42 ANSFLEVRASGLSEBCEBECDFEBAQETIPONVEDTLAWIKYFDGQCVLPDHCQD 101

QY 61 SLCCGHTCIDIGISFSCDRCSGMEGRFCQREVSFLNCSLDNGCTHYCLEEVGMRRCSC 120

DB 102 SPCGSGTICDGLGFGSCSCDKMGEGRFQCGEMGFQCRVKNKGCVHCLBETRGRCRC 161

QY 121 APGYKGLDGLLCHYAVKFGCPGKPMKRSKSHKR--PTENQEDQVDPPLDQKMKTR 178

DB 162 APGYELADHMKCRPTVNFPGCKMKRKTQKKRKFKEDIPEDBELEGPPIVNGTLTXQ 221

QY 179 GDSPMQVLLDSSKKLLACGAVLTPSPWVLTAAHCDSSKLLVRLGEYDLRRWEKMLDI 238

DB 222 GDSPMQVLLDSSKKLLACGAVLTPSPWVLTAAHCDSSKLLVRLGEYDLRRWPWLLDI 281

QY 239 DIKEVFAHPNYSKTTNDIALHLAQPAITISQITVPICLPDSGLARELNQAQCEITLV 298

DB 282 DIKEVLAHPNYSKTTNDIALHLAQPAITISQITVPICLPDSGLARELNQAQCEITLV 340



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Query Match Score 1756.5; DB 1; Length 459;
Best Local Similarity 75.6%; Pred No. 4,5e-131;
Matches 317; Conservative 37; Mismatches 61; Indels 7; Gaps 2

Qy      1 ANSFLELHSHSLRECEIERICDFEBAKEIFONVDTLTAFMSKHVDGQCLVPLEHPCA 60
        |||.....:::|
Db      42 ANSLFLELHSPSLBRECKEETCFEBAKEIFQNTENTWAFMSKYHDQCAVSPREHCL 101

Qy      61 SLCCGAGTCTIDGTGFSFCDCKSGMBGRFCQREHVSFLANGCNGCTHCLCEVGRRCSS 120
        |||.....:::|
Db      102 SPCCGAGTCTIDGTGFGFRCDCAQGMEGRFLCEHVSFNSCTENGCAHYCLBEEGRRCAC 161

Qy      121 AFGKGLDLDLQCHNAVYFPCRPMREKREKRSMLRDEH---QENVDPLTLDGMMTR 177
        |||.....:::|
Db      162 AFGRLDHDHLCQCEPKYVSPGRLGNREKRNKRLKRLDDVDYKKEQIDPLVYVNGQSP 221

Qy      178 RQDSBQWQVVLTLSSKSKKALCGAVLTHPSWVLTFAHCDMSKLLVLTGEYDLRMEKVELD 237
        |||.....:::|
Db      222 WQESBQWQVVLTLSSKSKKALCGAVLIHWSVLTFAHCLDVKLTYRLGEYDLRRREKHEVD 281

Qy      238 LDIKEVAVHPNYSKSTTNDIALIHLAOPATLSCITVPLCLPDSGLAERELNQAQGETLV 297
        |||.....:::|
Db      282 LDIKEPLVHNVTBSTSNDIALRLAEPATFSTIYPLCLPDSGSELRTFVQGETVYV 341

Qy      298 TQMGXSHSRKEAKENRTFVNFILKIPVFNHESGSMNYSRMTCAGLIGDQDACE 357

```

Db 342 TWGKYS-----EATKRSFLNFIKVPVPAHNECVQAHNMKISNMICAGLIGSDRDC 397

Qy 358 GDGGPMVASFHGTWFLVGLVSWGEGCGGLHNTGYTKYSRYLDWIGHIRDKAPQKSW 417

Db 398 GDGGPMVASFHGTWFLVGLVSWGEGCGGRLHNTGYTKYSRYLDWIGHIRDEAFHHQ 457

Qy 418 AP 419

Db 458 VP 459

RESULT 4

PTC BOVIN STANDARD; PRT; 456 AA.

AC P00745;

DT 21-JUL-1986 (Rel. 01, Created)

DT 13-AUG-1987 (Rel. 05, Last sequence update)

DT 10-OCT-2003 (Rel. 42, Last annotation update)

DE vitamin-K-dependent protein C precursor (EC 3.4.21.69)

DE (Anticlotting protein C precursor)

DE (Anticlotting protein C) (Blood coagulation factor XIV) (Fragment).

GN PROC.

OS Bos taurus (Bovine).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae; Bovinae; Bovinae; Bos.

OC NCBI TaxID=9913;

OX [1] \_

RM RP SEQUENCE FROM N.A.

FX MEDLINE=85014826; PubMed=60911100;

RA Long G.L., Balazs R.M., McGillivray R.T.A.;

RT "Cloning and sequencing of liver cDNA coding for bovine protein C.,"

RL Proc. Natl. Acad. Sci. U.S.A. 81:5653-5656(1984).

RM [2]

RP SEQUENCE OF 40-194, AND CARBOHYDRATE-LINKAGE SITE ASN-136.

FX MEDLINE=83007325; PubMed=6896876;

RA Fennell J., Fennell J.;

RT "Amino acid sequence of the light chain of bovine protein C.,"

RL J. Biol. Chem. 257:12170-12179(1982).

RM [3]

RP REVISION TO 110.

FX MEDLINE=83169769; PubMed=6572939;

RA Drakenberg T., Fennell J., Koeppel P., Fennell J.;

RT "Beta-hydroxyaspartic acid in vitamin K-dependent protein C.,"

RL Proc. Natl. Acad. Sci. U.S.A. 80:1802-1806(1983).

RM [4]

RP SEQUENCE OF 197-456, AND CARBOHYDRATE-LINKAGE SITES ASN-289; ASN-350 AND ASN-366.

FX MEDLINE=83007326; PubMed=6896877;

RA Fennell J., Fennell J.;

RT "Amino acid sequence of the heavy chain of bovine protein C.,"

RL J. Biol. Chem. 257:12180-12190(1982).

RM [5]

RP PROCESSING, AND CALCIUM-BINDING DATA.

FX MEDLINE=83213513; PubMed=6304092;

RA Eason N.L., Deballt L.E., Eason C.T.;

RT "Proteolytic formation and properties of gamma-carboxyglutamic acid-domainless protein C.,"

RL J. Biol. Chem. 258:5548-5553(1983).

RM [6]

RP PROCESSING, AND CALCIUM-BINDING DATA.

FX MEDLINE=83213514; PubMed=6406503;

RA Johnson A.E., Eason N.L., Lau T.M., Eason C.T.;

RT "Structural changes required for activation of protein C are induced by Ca2+ binding to a high affinity site that does not contain gamma-carboxyglutamic acid.,"

RL J. Biol. Chem. 258:5554-5560(1983).

CC -1- FUNCTION: Protein C is a vitamin K-dependent serine protease that regulates blood coagulation by inactivating factors Va and VIIIa in the presence of calcium ions and phospholipids.

CC -1- CATALYTIC ACTIVITY: Degradation of blood coagulation factors Va and VIIIa.

FT ACT\_SITE 296 296 CHANGE RELAY SYSTEM.  
 FT ACT\_SITE 399 399 CHARGE RELAY SYSTEM.  
 FT DISULFID 53 58 BY SIMILARITY.  
 FT DISULFID 86 105 BY SIMILARITY.  
 FT DISULFID 95 100 BY SIMILARITY.  
 FT DISULFID 99 114 BY SIMILARITY.  
 FT DISULFID 116 125 BY SIMILARITY.  
 FT DISULFID 134 145 BY SIMILARITY.  
 FT DISULFID 141 154 BY SIMILARITY.  
 FT DISULFID 156 169 BY SIMILARITY.  
 FT DISULFID 177 316 INTERCHAIN (BY SIMILARITY).  
 FT DISULFID 235 251 BY SIMILARITY.  
 FT DISULFID 370 384 BY SIMILARITY.  
 FT DISULFID 395 423 N-LINKED (GLCNAC. . .) (POTENTIAL).  
 FT DISULFID 133 133 N-LINKED (GLCNAC. . .) (POTENTIAL).  
 FT CARBOHYD 287 287 N-LINKED (GLCNAC. . .) (POTENTIAL).  
 FT CARBOHYD 352 352 N-LINKED (GLCNAC. . .) (POTENTIAL).  
 SQ SEQUENCE 458 AA; 51087 MW; D75A5F90C8F29D7 CRC64;

Query Match 81.0%; Score 1882.5; DB 1; Length 458;  
 Best Local Similarity 80.3%; Pred. No. 5.3e-141;  
 Matches 339; Conservative 33; Mismatches 47; Indels 3; Gaps 2;

QY 1 ANSFLEELHSLRECEIEICDFEBAKEIFQNVDTTLAFNSKRVDSGQCLVPLEHPCA 60  
 37 ANSFLEELHSLRECEIEICDFEBAKEIFQNVDTTLAFNSKRVDSGQCLVPLEHPCA 96  
 QY 61 SLCCGCTCIGDGSFSCDRSGWBRFCQREVSFNLGNDGCTHYCLEEYGMRCSC 120  
 DB 97 SOCCGHGTCASTIGGFCQCHGMEGSPQYEVFNSGVNDGCAHCLLEBAHSGSC 156  
 QY 121 APGYKLGDLLOCHPAKPCGR-PKRMKEKSHLRDTE--DOEDQVDFRLIDGKMR 177  
 157 APGEIADHLCCEPAVPCGGLMKRIEKKRGNVRLDEQVDMEDVDFRLIDGLR 216  
 DB 178 RGSQPMQVLLDSKKKACGAVLIHPSWTLPAHCHMESKLLVRLGELYDLRKEWEYD 237  
 217 RGSQPMQVLLDSKKKACGAVLIHPSWTLPAHCHMESKLLVRLGELYDLRKEWEYD 276  
 QY 238 LDIEYFVHPNYSKSTNDIALHLAOPATLSOTIYICLPISGLAREINQAGGETLY 297  
 DB 277 LNTDEVLIHPNYSRSTNDIALHLAOPATLSOTIYICLPISGLAREINQAGGETLY 336  
 QY 298 TGMGYSRSEKAKXRTFVINFKIPVPHNECEVSNMVSNNLCAGLIGDRDACE 357  
 DB 337 TGMGYSRSEKAKXRTFVINFKIPVPHNECEVSNMVSNNLCAGLIGDRDACE 396  
 QY 358 GDSGPMVASFHGTPIVLGVSWGEGGLIANYVTYKSRILYDTHGHIDKRAPOKSM 417  
 DB 397 GDSGPMVASFHGTPIVLGVSWGEGGLIANYVTYKSRILYDTHGHIDKRAPOKSM 456  
 QY 418 AP 419  
 DB 457 AP 458

RESULT 3  
 PRIC\_PIG STANDARD; PRT; 459 AA.  
 AC Q9GLP2;  
 DT 16-OCT-2001 (Rel. 40, Created)  
 DT 16-OCT-2001 (Rel. 40, Last sequence update)  
 DT 28-FEB-2003 (Rel. 41, Last annotation update)  
 DE Vitamin-K-dependent protein C precursor (EC 3.4.21.69)  
 DE (Autoproteolytic IIA) (Anticoagulant protein C) (Blood coagulation factor XIV).  
 GN PROC.  
 OS Sus scrofa (Pig).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Cetartiodactyla; Suidae; Suidae; Sus.  
 OX NCBI\_Taxid=9823;  
 RN [1]  
 RP SEQUENCE FROM N.A.

RC TISSUE=Liver;  
 RX MEDLINE=21121490; PubMed=11229814;  
 RA Grimm D.R., Colter M.B., Braunschweig M., Alexander L.J., Neame P.J.,  
 RA Kim H.K.W.;  
 RT "Porcine factor V: cDNA cloning, gene mapping, three-dimensional  
 RT protein modeling of membrane binding sites and comparative anatomy of  
 RT domains";  
 RL Cell. Mol. Life Sci. 58:148-159(2001).  
 CC -1- FUNCTION: Protein C is a vitamin K-dependent serine protease that  
 CC regulates blood coagulation by inactivating factors Va and VIIIa  
 CC in the presence of calcium ions and phospholipids.  
 CC -1- CATALYTIC ACTIVITY: Degradation of blood coagulation factors Va  
 CC and VIIIa.  
 CC -1- SUBUNIT: Synthesized as a single chain precursor, which is cleaved  
 CC into a light chain and a heavy chain held together by a disulfide  
 CC bond. The enzyme is then activated by thrombin, which cleaves a  
 CC trypsin-like domain from the amino end of the heavy chain; this  
 CC reaction, which occurs at the surface of endothelial cells, is  
 CC strongly promoted by thrombomodulin.  
 CC -1- TISSUE SPECIFICITY: Plasma; synthesized in the liver.  
 CC -1- PTM: The vitamin K-dependent, enzymatic carboxylation of some Glu  
 CC residues allows the modified protein to bind calcium.  
 CC -1- MISCELLANEOUS: Calcium also binds, with stronger affinity to  
 CC another site, beyond the Gla domain. This Gla-independent binding  
 CC site is necessary for the recognition of the thrombin-  
 CC chromomodulin complex.  
 CC -1- SIMILARITY: Belongs to EGF-like domains.  
 CC -1- SIMILARITY: Contains 2 EGF-like domains.  
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 CC -----  
 DR EMBL: AF191307; AAG28380.1; -  
 DR HSBP; P04070; IPCU.  
 DR MEROPS; S01.218; -  
 DR InterPro: IPR000152; Asx hydroxyl S.  
 DR InterPro: IPR009003; Cys Ser Trypsin.  
 DR InterPro: IPR01881; EGF Ca.  
 DR InterPro: IPR006209; EGF-like.  
 DR InterPro: IPR002383; Gla blood.  
 DR InterPro: IPR006210; IEGF.  
 DR InterPro: IPR001254; Peptidase S1.  
 DR InterPro: IPR001314; Peptidase S1A.  
 DR InterPro: IPR000294; VitK\_dep\_Gla.  
 DR Pfam; PR00008; EGF; 2.  
 DR Pfam; PR00594; Gla; 1.  
 DR Pfam; PR00089; trypsin; 1.  
 DR PRINTS; PR00722; CHYMOTRYPSIN.  
 DR PRINTS; PR00001; GLABLOOD.  
 DR SMART; SM00181; EGF; 2.  
 DR SMART; SM00069; Gla; 1.  
 DR SMART; SM00020; TYP\_SPC; 1.  
 DR PROSITE; PS00010; ASX\_HYDROXYL; 1.  
 DR PROSITE; PS00022; EGF\_1; 1.  
 DR PROSITE; PS01186; EGF\_2; 2.  
 DR PROSITE; PS00026; EGF\_3; 1.  
 DR PROSITE; PS01187; EGF CA; 1.  
 DR PROSITE; PS00011; GUT\_CARBOXYLATION; 1.  
 DR PROSITE; PS00240; TRYPSIN\_DOM; 1.  
 DR PROSITE; PS00134; TRYPSIN\_HIS; 1.  
 DR PROSITE; PS00135; TRYPSIN\_SER; 1.  
 KW Blood coagulation; Glycoprotein; Serine protease;  
 KW Gamma-carboxyglutamic acid; Calcium-binding; Vitamin K; Hydroxylation;  
 KW EGF-like domain; Repeat; Endothelial cell; Hydrolyase; Signal.  
 FT SIGNAL 1 18  
 FT PROPEP 19 41 BY SIMILARITY.  
 FT CHAIN 42 459 VITAMIN K-DEPENDENT PROTEIN C.  
 FT CHAIN 42 196 PROTEIN C LIGHT CHAIN (BY



Query Match 100.0%; Score 2324; DB 1; Length 461;  
 Best Local Similarity 100.0%; Pred. No. 8,56-176;  
 Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

1 ANSLEELRRSLRECEIEECDFEAKKEIFONVDTTLAEMSKVNDGQVLPLEHPC 60  
 43 ANSLEELRRSLRECEIEECDFEAKKEIFONVDTTLAEMSKVNDGQVLPLEHPC 102  
 61 SLCCGATCTDGGFSCDCSSGMEGRFCQREVSFLNCSLDNGCHYLTGVGRSC 120  
 103 SLCCGATCTDGGFSCDCSSGMEGRFCQREVSFLNCSLDNGCHYLTGVGRSC 162  
 121 APGYKLDLLOCHPAKPCGRPMKMEKESHKRPDEDOEDQVPLIDGMKTERGD 180  
 163 APGYKLDLLOCHPAKPCGRPMKMEKESHKRPDEDOEDQVPLIDGMKTERGD 222  
 181 SPQVYLLDSSKKKLAGAVLHPSWVLTAAHCDSESKLLVRLGEYDLRMEKMLDLDI 240  
 223 SPQVYLLDSSKKKLAGAVLHPSWVLTAAHCDSESKLLVRLGEYDLRMEKMLDLDI 282  
 241 KEVPHNRYSKSTTNDIALHLAOPATLSQITVPLCPDSGLAERELNQAQETLVYGM 300  
 283 KEVPHNRYSKSTTNDIALHLAOPATLSQITVPLCPDSGLAERELNQAQETLVYGM 342  
 301 GYHSREKAKRRTFVLFKIPVPHNECSFWSNWSNMLCAGILGDRQACEDS 360  
 343 GYHSREKAKRRTFVLFKIPVPHNECSFWSNWSNMLCAGILGDRQACEDS 402  
 361 GGPVWASPHGTWFLVGLVSGWEGCGLLHNTGVTTKSYRLDWHGIRDKAPQSNAP 419  
 403 GGPVWASPHGTWFLVGLVSGWEGCGLLHNTGVTTKSYRLDWHGIRDKAPQSNAP 461

RESULT 2  
 PRTC\_RABIT STANDARD; PRT; 458 AA.

AC 028661;  
 DT 15-DEC-1998 (Rel. 37, Last sequence update)  
 DT 10-OCT-2003 (Rel. 42, Last annotation update)  
 DE Vitamin-K-dependent protein C precursor (BC 3.4.21.65)  
 DE (Autoproteolytic IIA) (Anticoagulant protein C) (Blood coagulation factor XIV) (Fragment).  
 GN PROC  
 OC Oryctolagus cuniculus (Rabbit).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.  
 OX NCBI\_TaxID=9986;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Liver;  
 RA Shen L., He X., Dahlback B.;  
 RA Submitted (FEB-1996) to the EMBL/GenBank/DBJ databases.  
 CC -1- FUNCTION: Protein C is a vitamin K-dependent serine protease that regulates blood coagulation by inactivating factors Va and VIIIa in the presence of calcium ions and phospholipids.  
 CC -1- CATALYTIC ACTIVITY: Degradation of blood coagulation factors Va and VIIIa.  
 CC -1- SUBUNIT: Synthesized as a single chain precursor, which is cleaved into a light chain and a heavy chain held together by a disulfide bond. The enzyme is then activated by thrombin, which cleaves a tetradecapeptide from the amino end of the heavy chain; this reaction, which occurs at the surface of endothelial cells, is strongly promoted by thrombomodulin.  
 CC -1- TISSUE SPECIFICITY: Plasma; synthesized in the liver.  
 CC -1- PTM: The vitamin K-dependent, enzymatic carboxylation of some Glu residues allows the modified protein to bind calcium.  
 CC -1- MISCELLANEOUS: Calcium also binds, with stronger affinity to another site, beyond the Gla domain. This Gla-independent binding site is necessary for the recognition of the thrombin-thrombomodulin complex.  
 CC -1- SIMILARITY: Belongs to peptidase family S1.

CC -1- SIMILARITY: Contains 2 EGF-like domains.  
 CC -----  
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 CC -----  
 CC EMBL: U49933; AAA92956.1; -  
 DR HSSP: P04070; 1PCU.  
 DR MEROPS: S01.218; -  
 DR InterPro: IPR000152; Asx\_hydroxy1\_S.  
 DR InterPro: IPR009003; Cys\_ser\_trypsin.  
 DR InterPro: IPR001881; EGF\_Ca.  
 DR InterPro: IPR006209; EGF\_like.  
 DR InterPro: IPR002383; Gla\_blood.  
 DR InterPro: IPR006210; IEGF.  
 DR InterPro: IPR001254; Peptidase\_S1.  
 DR InterPro: IPR001314; Peptidase\_S1A.  
 DR InterPro: IPR000294; Vitk\_dep\_Gla.  
 DR Pfam: PF00008; EGF; 2.  
 DR Pfam: PF00594; gla; 1.  
 DR Pfam: PF00089; trypsin; 1.  
 DR PRINTS: PR00722; CHYMOTRYPSIN.  
 DR PRINTS: PR00001; GLABLOOD.  
 DR SMART: SM00181; EGF; 2.  
 DR SMART: SM00069; GLA; 1.  
 DR SMART: SM00020; TTPR\_SPC; 1.  
 DR PROSITE: PS00010; ASX\_HYDROXYL; 1.  
 DR PROSITE: PS00022; EGF\_1; 1.  
 DR PROSITE: PS01186; EGF\_2; 2.  
 DR PROSITE: PS50026; EGF\_3; 1.  
 DR PROSITE: PS01187; EGF\_CA; 1.  
 DR PROSITE: PS00011; GLU\_CARBOXYLATION; 1.  
 DR PROSITE: PS50240; TRYPSIN\_DOM; 1.  
 DR PROSITE: PS00134; TRYPSIN\_HIS; 1.  
 DR PROSITE: PS00135; TRYPSIN\_SER; 1.  
 DR Blood coagulation; Glycoprotein; Serine protease;  
 KW Gamma-carboxyglutamic acid; Calcium-binding; Vitamin K; Hydroxylation;  
 KW EGF-like domain; Repeat; Endothelial cell; Hydrolase; Signal.  
 FT NON\_TER 1 1  
 FT SIGNAL 27 27  
 FT PROPEP 28 36  
 FT CHAIN 37 458  
 FT CHAIN 37 192  
 FT CHAIN 195 458  
 FT PEPTIDE 195 209  
 FT SITE 209 210  
 FT DOMAIN 91 126  
 FT DOMAIN 130 170  
 FT DOMAIN 210 458  
 FT MOD\_RES 42 42  
 FT MOD\_RES 43 43  
 FT MOD\_RES 50 50  
 FT MOD\_RES 52 52  
 FT MOD\_RES 55 55  
 FT MOD\_RES 56 56  
 FT MOD\_RES 61 61  
 FT MOD\_RES 62 62  
 FT MOD\_RES 65 65  
 FT MOD\_RES 107 107  
 FT ACT\_SITE 250 250

- RA Fahay J., Helton E., Kelleman M., Madan A., Rodrigues S., Sanchez A.,  
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,  
RA Blakeley R.W., Touchman J.W., Green E.D., Dickson M.C.,  
RA Rodriguez A.C., Grimwood J., Schmitz J., Myers R.M.,  
RA Butterfield V.S.N., Krzywnicki M.I., Skalska U., Smailus D.E.,  
RA Scherch A., Schein J.E., Jones S.J.M., Maira M.A.,  
RA "Generation and initial analysis of more than 15,000 full-length  
RT human and mouse cDNA sequences";  
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).  
RN [16]  
RN SEQUENCE OF 106-461 FROM N.A.  
RX MEDLINE=84272714; PubMed=6589623;  
RA Foster D.C., Davie E.W.;  
RA "Characterization of a cDNA coding for human protein C";  
RL Proc. Natl. Acad. Sci. U.S.A. 81:4766-4770(1984).  
RN [17]  
RN CARBOHYDRATE-LINKAGE SITE ASN-371.  
RX MEDLINE=90293094; PubMed=1694179;  
RA Miletich J.P., Broze G.J. Jr.;  
RA "Beta protein C is not glycosylated at asparagine 329. The rate of  
RT translation may influence the frequency of usage at asparagine-X-  
RT cysteine sites";  
RL J. Biol. Chem. 265:11397-11404(1990).  
RN [18]  
RN HYDROXYLATION.  
RX MEDLINE=92184750; PubMed=1544894;  
RA Harris R.J., Ling V.T., Spellman M.W.;  
RA "O-linked fucose is present in the first epidermal growth factor  
RT domain of factor XII but not protein C";  
RL J. Biol. Chem. 267:5102-5107(1992).  
RN [19]  
RN 3D-STRUCTURE MODELING OF 175-450.  
RX MEDLINE=94272342; PubMed=8003977;  
RA Fisher C.L., Greengard J.S., Griffin J.H.;  
RA "Models of the serine protease domain of the human antithrombotic  
RT plasma factor activated protein C and its zymogen";  
RL Protein Sci. 3:588-599(1994).  
RN [10]  
RN X-RAY CRYSTALLOGRAPHY (2.8 ANGSTROMS) OF 84-461.  
RX MEDLINE=97157472; PubMed=9003757;  
RA Wather T., Oganesyan V., Hof P., Huber R., Foundling S., Esmen C.,  
RA Bode W.;  
RA "The 2.8 A crystal structure of Glu-domainless activated protein C";  
RL EMBO J. 15:6822-6831(1996).  
RN [11]  
RN REVIEW ON PROC VARIANTS.  
RX MEDLINE=93190290; PubMed=8446940;  
RA Reitsma P.H., Poort S.R., Bernardi F., Gandville S., Long G.L.,  
RA Sala N., Cooper D.N.;  
RA "Protein C deficiency: a database of mutations. For the Protein C & S  
RT Subcommittee of the Scientific and Standardization Committee of the  
RT International Society on Thrombosis and Haemostasis";  
RL Thromb. Haemost. 69:77-84(1993).  
RN [12]  
RN VARIANT PROC DEFICIENCY CYS-444.  
RX MEDLINE=87204221; PubMed=2437584;  
RA Romeo G., Haasman H.J., Staampfli S., Roncuzzi L., Cianetti L.,  
RA Leonardi A., Vicente V., Mannucci P.M., Bertina R.M., Peschle C.,  
RA Corlese R.;  
RA "Hereditary thrombophilia: identification of nonsense and missense  
RT mutations in the protein C gene";  
RL Proc. Natl. Acad. Sci. U.S.A. 84:2829-2832(1987).  
RN [13]  
RN VARIANT PROC DEFICIENCY TRP-211.  
RX MEDLINE=90098906; PubMed=2602169;  
RA Grundy C.B., Chitolie A., Talbot S., Bevan D., Kakkar V.V.,  
RA Cooper D.N.;  
RA "Protein C London 1: recurrent mutation at Arg-169 (CGG->TGG) in  
RT the protein C gene causing thrombosis";  
RL Nucleic Acids Res. 17:10513-10513(1989).  
RN [14]  
RN VARIANT PROC DEFICIENCY CYS-272.  
RX MEDLINE=91329836; PubMed=1686249;
- RA Reitsma P.H., Poort S.R., Allart C.F., Briet E., Bertina R.M.;  
RT "The spectrum of genetic defects in a panel of 40 Dutch families with  
RT symptomatic protein C deficiency type I: heterogeneity and founder  
RT effects";  
RL Blood 78:890-894(1991).  
RN [15]  
RN VARIANT PROC DEFICIENCY ALA-62 AND MET-76.  
RX MEDLINE=92190481; PubMed=1347706;  
RA Bovill E.G., Tomczak J.A., Grant B., Bhushan P., Pillemer E.,  
RA Rainville I.R., Long G.L.;  
RA "Protein C variant: symptomatic type II protein C deficiency  
RT associated with two Glu domain mutations";  
RL Blood 79:1456-1465(1992).  
RN [16]  
RN VARIANT PROC DEFICIENCY ASP-418.  
RX MEDLINE=92305321; PubMed=1611081;  
RA Sugahara Y., Miura O., Yuen P., Aoki N.;  
RA "Protein C deficiency Hong Kong 1 and 2: hereditary protein C  
RT deficiency caused by two mutant alleles, a 5-nucleotide deletion and  
RT a missense mutation";  
RL Blood 80:126-133(1992).  
RN [17]  
RN VARIANT PROC DEFICIENCY LEU-289.  
RX MEDLINE=92380650; PubMed=1511988;  
RA Grundy C.B., Chisholm M., Kakkar V.V., Cooper D.N.;  
RA "A novel homozygous missense mutation in the protein C (PROC) gene  
RT causing recurrent venous thrombosis";  
RL Hum. Genet. 89:683-684(1992).  
RN [18]  
RN VARIANT PROC DEFICIENCY GLN-220 AND TRP-220.  
RX MEDLINE=92380661; PubMed=1511989;  
RA Grundy C.B., Schulman S., Tengborn L., Kakkar V.V., Cooper D.N.;  
RT "Two different missense mutations at Arg 178 of the protein C (PROC)  
RT gene causing recurrent venous thrombosis";  
RL Hum. Genet. 89:685-686(1992).  
RN [19]  
RN VARIANT PROC DEFICIENCY GLN-220.  
RX MEDLINE=93250852; PubMed=1301959;  
RA Gandville S., Vaidud M., Alach M., Albenc-Gelas M., Fischer A.M.,  
RA Gouault-Hellman M., Toulon P., Friesinger U.N., Goossens M.;  
RT "Two novel mutations responsible for hereditary type I protein C  
RT deficiency: characterization by denaturing gradient gel  
RT electrophoresis";  
RL Hum. Mutat. 1:491-500(1992).  
RN [20]  
RN VARIANT PROC DEFICIENCY SER-334.  
RX MEDLINE=92276939; PubMed=1593215;  
RA Yamamoto K., Matsushita T., Sugiyama I., Takamatsu J., Iwasaki E.,  
RA Yamamoto K., Matsushita T., Sugiyama I., Takamatsu J., Iwasaki E.,  
RA Mada H., Deguchi K., Shirakawa S., Saito H.;  
RT "Homozygous protein C deficiency: identification of a novel missense  
RT mutation that causes impaired secretion of the mutant protein C";  
RL J. Lab. Clin. Med. 119:682-689(1992).  
RN [21]  
RN VARIANT PROC DEFICIENCY TRP-38; CYS-42; HIS-42; GLN-271 AND ASN-294.  
RX MEDLINE=9313192; PubMed=8324221;  
RA Gandville S., Albenc-Gelas M., Gausem P., Allard M.-F., Dupuy E.,  
RA Uhan-Vague I., Alach M.;  
RT "Five novel mutations located in exons III and IX of the protein C  
RT gene in patients presenting with defective protein C anticoagulant  
RT activity";  
RL Blood 82:159-168(1993).  
RN [22]  
RN VARIANT PROC DEFICIENCY GLY-14; GLN-211; TYR-244; GLN-253; LEU-321;  
RX CYS-328; ILE-385; THR-388 AND VAL-388.  
RA MEDLINE=93271391; PubMed=8499565;  
RA Poort S.R., Pabinger-Fasching I., Mannhalter C., Reitsma P.H.,  
RA Bertina R.M.;  
RT "Twelve novel and two recurrent mutations in 14 Austrian families  
RT with hereditary protein C deficiency";  
RL Blood Coagul. Fibrinolysis 4:273-280(1993).  
RN [23]  
RN VARIANT PROC DEFICIENCY TRP-57.  
RX MEDLINE=93271396; PubMed=8499568;

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## OM protein - protein search, using sw model

Run on: June 2, 2004, 16:50:51 ; Search time 18 Seconds

(without alignments)  
1212.077 Million cell updates/sec

Title: US-09-997-623-4

Perfect score: 2324

Sequence: 1 ANSFLELNHSLRECEIE.....IDWIGHINDKPAQKSWAP 419

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues

Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database: SwissProt\_42.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	2324	100.0	461	1 PRTC_HUMAN	P04070 homo sapien
2	1882.5	81.0	458	1 PRTC_RABIT	Q28661 oryctolagus
3	1756.5	75.6	459	1 PRTC_PIG	Q28162 sus scrofa
4	1668	71.8	456	1 PRTC_BOVIN	P00745 bos taurus
5	1654.5	71.2	461	1 PRTC_RAT	P11394 rattus norv
6	1641.5	70.6	461	1 PRTC_MOUSE	P33587 mus musculu
7	835	35.9	161	1 PRTC_MARMO	Q28506 macaca mla
8	814.5	35.0	490	1 FA10_RABIT	Q19045 oryctolagus
9	809.5	34.8	492	1 FA10_BOVIN	P00743 bos taurus
10	809	34.8	488	1 FA10_HUMAN	P00742 homo sapien
11	802	34.5	444	1 FA7_RABIT	P98139 oryctolagus
12	801.5	34.5	475	1 FA10_CHICK	P25155 gallus galli
13	783	33.7	466	1 FA7_HUMAN	P22457 homo sapien
14	779.5	33.5	407	1 FA7_BOVIN	P22457 bos taurus
15	770	33.1	446	1 FA9_MOUSE	P70375 mus musculu
16	763	32.8	452	1 FA9_CANFA	P19540 canis famli
17	740	31.8	461	1 FA9_PANTR	Q95nd7 pan troglod
18	736	31.7	461	1 FA9_HUMAN	P00740 homo sapien
19	726	31.2	376	1 FA10_HOPEP	P83370 hoplocephal
20	724	31.2	459	1 FA9_MOUSE	P16224 mus musculu
21	724	31.2	376	1 FA10_TROCA	P81428 tropidochis
22	717	30.9	157	1 PRTC_CANFA	Q28412 felis silve
23	716	30.8	157	1 PRTC_FELCA	Q28412 felis silve
24	714.5	30.7	416	1 FA9_BOVIN	Q28380 equus cabal
25	700	30.1	157	1 PRTC_HORSE	Q28315 capra hircu
26	661	28.4	157	1 PRTC_CAPII	P00734 homo sapien
27	552.5	24.2	622	1 THRB_BOVIN	P00734 bos taurus
28	538.5	23.2	625	1 THRB_BOVIN	P19221 mus musculu
29	533	22.9	618	1 THRB_MOUSE	P19221 rattus norv
30	525.5	22.6	617	1 THRB_RAT	Q94068 mus musculu
31	475.5	20.5	653	1 HGRA_MOUSE	Q94068 mus musculu
32	475.5	20.5	653	1 HGRA_MOUSE	Q94068 mus musculu
33	474	20.4	811	1 TM56_HUMAN	Q81u80 homo sapien

34	473.5	20.4	655	1 HGRA_HUMAN	Q04756 homo sapien
35	468	20.1	400	1 PRTC_HUMAN	P22891 homo sapien
36	448	19.3	396	1 PRTC_BOVIN	P00744 bos taurus
37	439.5	18.9	275	1 TRYT_PIG	Q02d1 sus scrofa
38	427	18.4	271	1 FA9_PIG	P16293 sus scrofa
39	426	18.3	638	1 KAL_MOUSE	P26262 mus musculu
40	424.5	18.3	638	1 KAL_HUMAN	P03952 homo sapien
41	420.5	18.1	699	1 CRAR_HUMAN	P48740 h complemen
42	420	18.1	275	1 FA9_RABIT	P16292 oryctolagus
43	419	18.0	625	1 FA10_HUMAN	P03951 homo sapien
44	418.5	18.0	455	1 TM52_MOUSE	Q9er04 mus musculu
45	418	18.0	490	1 TM52_MOUSE	Q9jig8 mus musculu

## ALIGNMENTS

RESULT 1  
ID PRTC\_HUMAN STANDARD; PRT; 461 AA.  
AC P04070; Q15189; Q15190; Q16001;  
DT 01-NOV-1986 (Rel. 03, Created)  
DT 01-NOV-1986 (Rel. 03, Last sequence update)  
DT 15-MAR-2004 (Rel. 43, Last annotation update)  
DE Vitamin-K-dependent protein C precursor (EC 3.4.21.69)  
DE (Autoproteolytic IIA) (Anticoagulant protein C) (Blood coagulation factor XIV).  
GN PROC.  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Primates; Catarrhini; Homidae; Homo.  
OX NCBI\_TaxID=9606;  
RN [1]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=85270390; PubMed=2991887;  
RA Foster D.C., Yoshitake S., Davie E.W.;  
RT "The nucleotide sequence of the gene for human protein C";  
RL Proc. Natl. Acad. Sci. U.S.A. 82:4673-4677(1985).  
RN [2]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=85269639; PubMed=2991859;  
RA Beckmann R.J., Schmidt R.J., Satterre R.F., Plutsky J., Crabtree G.R.,  
RT "The structure and evolution of a 461 amino acid human protein C precursor and its messenger RNA, based upon the DNA sequence of cloned human liver cDNAs";  
RL Nucleic Acids Res. 13:5233-5247(1985).  
RN [3]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=86120978; PubMed=3511471;  
RA Plutsky J., Hoskins J.A., Long G.L., Crabtree G.R.;  
RT "Evolution and organization of the human protein C gene";  
RL Proc. Natl. Acad. Sci. U.S.A. 83:546-550(1986).  
RN [4]  
RP SEQUENCE FROM N.A.  
RA Rieder W.J., Carrington D.P., Chung M.-W., Lee K.L., Poel C.L., Yi Q.,  
RT Nickerson D.A.;  
RL Submitted (JUN-2001) to the EMBL/GenBank/DBJ databases.  
RN [5]  
RP SEQUENCE FROM N.A.  
RC TISSUE=COLON;  
RX MEDLINE=22386257; PubMed=12477932;  
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,  
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,  
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,  
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,  
RA Diatchkov L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,  
RA Saperstein M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,  
RA Brownstein M.J., Ustin T.B., Yoshiyuki S., Carrincci P., Prange C.,  
RA Raha S.S., Loquellano N.A., Peters G.J., Adamson R.D., Millamy S.J.,  
RA Besak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,  
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,  
RA Villalón D.K., Murry D.M., Sodergren E.J., Lu X., Gibbs R.A.,



F:191-192/Cleavage site: Arg-Ala (coagulation factor IXa) #status experimental  
 F:203,213/Binding site: carbohydrate (Asn) (covalent) #status experimental  
 F:205,215/Binding site: carbohydrate (Thr) (covalent) #status experimental  
 F:226-227/Cleavage site: Arg-Val (coagulation factor IXa) #status experimental

Query Match 31.7%; Score 736; DB 1; Length 461;  
 Best Local Similarity 35.4%; Pred. No. 2e-46;  
 Matches 150; Conservative 72; Mismatches 156; Indels 46; Gaps 10;

QY 5 LEEHSHSLRECEIEICDFEAEKIFQNYDITLAFMSKHYDQDCLVPLEHPCASLCC 64  
 DB 52 LEEFQGNLERECMEKESFEARAEVFNTEKTEFMKQYVDGQCSNP-----CL 103  
 QY 65 GHGTCTDGIQSPSCDSCSGMEGRPCQREVSFLNCSLDNGCTHYCLEVGMW-RGSCAPG 123  
 DB 104 NGSGCKDDISYSBECWCPGFEGRKNCGLDVT--CNKNGRCQCFKNSADNVCSCTEG 160  
 QY 124 YKLGDDLLQCHPAVKFPCGRPMKMEKRSKSLKR-----DTEDEQDQV----- 167  
 DB 161 YKLAENQKSCBPVPPFCGRVSVQTSKLTREANFPPVDVYNSTAEFTILNITQSTQS 220  
 QY 168 -----PRLDGKMTRGDSFQWYVLLDSKKKLACGAVLHPSWVLTAAHCHDSKKLVRL 223  
 DB 221 FMDFTRVVGGEDAKPGQFPMQV--LNGKVAFQSGSIYNEKVIYTAHCHGEGVATVVA 279  
 QY 224 GRYDRLRMEKELDLDIKFVHPVYSKST--DNDIALHLAQPATLSQTIYPICLPDS 281  
 DB 280 GHNTEETHETEKRVNIRIIPHNHYNALNKNHIDLELDEPLVANSYTPICLADK 339  
 QY 282 GLAEELNQAQETLVTGNG--YHSSREKAKNRTFVNLFIKIPVPHNESEVMANV 339  
 DB 340 EYTNIFLKEG--SGVYSGMGRVPHKGS-----ALVLYARVPLVDRAITCLRSKFTI 390  
 QY 340 SENMLCAGILDRQDACEDESGPVVASFHGTWFLVGLVSGEGCLHNYGYTKVSRV 399  
 DB 391 YNNMFCAGFHGGRDSCQSGPHTVEGTSFLTGIIISWGBEAMKGRGYITKVSRY 450  
 QY 400 LDMT 403  
 DB 451 VMMI 454

## RESULT 14

UQ0419  
 coagulation factor IXa (EC 3.4.21.22) precursor - mouse (fragment)

C/Species: Mus musculus (house mouse)  
 C/Date: 07-Sep-1990 #sequence revision 07-Sep-1990 #text change 16-Jul-1999  
 C/Accession: UQ0419, 149667  
 R/Mu, S.M.; Stafford, D.W.; Ware, J.  
 Gene 86, 275-278, 1990  
 A/Title: Deduced amino acid sequence of mouse blood-coagulation factor IX.  
 A/Reference number: UQ0419; MUID:90215309; PMID:2333576  
 A/Accession: UQ0419  
 A/Molecule type: mRNA  
 A/Residues: 1-459 <WUS>  
 A/Cross-references: GB:M23109; NID:g193317; PIDN:AAA37629.1; PID:g387158  
 R/Experimental source: liver  
 R/Sarkar, G.; Koeberl, D.D.; Sommer, S.S.  
 Genomics 6, 133-143, 1990  
 A/Title: Direct sequencing of the activation peptide and the catalytic domain of the fac  
 A/Reference number: 146580; MUID:90152675; PMID:2303254  
 A/Accession: 149667  
 A/Status: preliminary; translated from GB/EMBL/DDBJ  
 A/Molecule type: mRNA  
 A/Residues: 166-362, 'Q', 364-387, 'T', 389-451 <RES>  
 A/Cross-references: GB:M26236; NID:g193319; PIDN:AAA37630.1; PID:g193320  
 C/Comment: This protein plays a critical role in blood coagulation.  
 C/Superfamily: coagulation factor X; EGF homology; Gla domain homology; trypsin homology  
 C/Keywords: beta-hydroxyaspartic acid; blood coagulation; calcium binding; carboxylglutam  
 F:1-16/Domain: signal sequence (fragment) #status predicted <SIG>  
 F:17-34/Domain: propeptide #status predicted <PRO>  
 F:19-79/Domain: Gla domain homology <GLA>  
 F:35-459/Product: coagulation factor IX #status predicted <MAT>

F:85-116/Domain: EGF homology <EG1>  
 F:122-158/Domain: EGF homology <EG2>  
 F:225-452/Domain: trypsin homology <TRY>  
 F:41, 42, 49, 51, 54, 55, 60, 61, 64, 67, 70, 74/Modified site: gamma-carboxyglutamic acid (Glu) #st  
 F:52-57, 85-96, 99-105, 107-116, 122-133, 129-143, 145-158, 166-333, 250-266, 380-394, 405-433/1st  
 F:265,313,409/Active site: His, Asp, Ser #status predicted

Query Match 31.2%; Score 726; DB 2; Length 459;  
 Best Local Similarity 35.4%; Pred. No. 1.e-45;  
 Matches 155; Conservative 68; Mismatches 151; Indels 64; Gaps 12;

QY 5 LEEHSHSLRECEIEICDFEAEKIFQNYDITLAFMSKHYDQDCLVPLEHPCASLCC 64  
 DB 40 LEEFQGNLERECMEKESFEARAEVFNTEKTEFMKQYVDGQCSNP-----CL 91  
 QY 65 GHGTCTDGIQSPSCDSCSGMEGRPCQREVSFLNCSLDNGCTHYCLEVGMW-RGSCAPG 123  
 DB 92 NGGICKDDISYSBECWCPGFEGRKNCGLDVT--CNKNGRCQCFKNSADNVCSCTEG 148  
 QY 124 YKLGDDLLQCHPAVKFPCGRP-----MKMEKRSKSLKR----- 154  
 DB 149 YQLAEDQKSCBPVPPFCGRASISYSKLTREAVFSNVDYENSTAEVFIQDIDGAI 208  
 QY 155 LKRDTEDEQDQV--PRLDGKMTRGDSFQWYVLLDSKKKLACGAVLHPSWVLTAAHCH 213  
 DB 209 LNNVTSSESLNDFTRVVGGEDAKPGQFPMQV--LNGKVAFQSGSIYNEKVIYTAHCH 267  
 QY 214 DESKLLVRLGRYDLRMEKELDLDIKFVHPVYSKST--DNDIALHLAQPATLSQ 271  
 DB 268 KPGDKLEAVAGHINIDKEDETEGRNVRIRTPHQNALNTINKSHDILDELKPLINS 327  
 QY 272 TVPICLPDPSGLARELNQ-----AGQETLVTSWGYHSSREKAKNRTFVNLFIKIPV 325  
 DB 328 YVTPIC-----VANREYTNIFLKEGSG--YVSGMGRVPHKGS-----ILQYLRVPL 374  
 QY 326 VPHNESEVMANVSENMLCAGILDRQDACEDESGPVVASFHGTWFLVGLVSGEGCLHNYGYTKVSRV 385  
 DB 375 VDRATCLRSFTFTYNNMFCAGYRGGKDCGSDGSPHTVEGTSFLTGIIISWGBEAC 434  
 QY 386 LHHNYGYTKVSRVYDWT 403  
 DB 435 MKKGYITKVSRYVMMI 452

## RESULT 15

KRBO

coagulation factor IXa (EC 3.4.21.22) precursor - bovine

N/Alternate names: Christmas factor  
 C/Species: Bos primigenius taurus (cattle)  
 C/Date: 30-Nov-1980 #sequence revision 03-Aug-1984 #text change 16-Jul-1999  
 C/Accession: A14757; B20274; I45891; A00923  
 R/Katayama, K.; Ericsson, L.H.; Enfield, D.L.; Walsh, K.A.; Neurath, H.; Davie, E.W.; Tit  
 Proc. Natl. Acad. Sci. U.S.A. 76, 4990-4994, 1979  
 A/Title: Comparison of amino acid sequence of bovine coagulation factor IX (Christmas fac  
 A/Reference number: A14757; MUID:80056619; PMID:291916  
 A/Accession: A14757  
 A/Molecule type: protein  
 A/Residues: 1-63, 'T', 65-416 <XAT>  
 R/McMullen, B.A.; Fujikawa, K.; Kiesel, W.  
 Biochem. Biophys. Res. Commun. 115, 8-14, 1983  
 A/Title: The occurrence of beta-hydroxyaspartic acid in the vitamin K-dependent blood coe  
 A/Reference number: A20274; MUID:83308813; PMID:6688526  
 A/Accession: B20274  
 A/Molecule type: protein  
 A/Residues: 59-63, 'X', 65-69 <WCM>  
 R/Choo, K.H.; Gould, K.G.; Rees, D.J.G.; Brownlee, G.G.  
 Nature 299, 178-180, 1982  
 A/Title: Molecular cloning of the gene for human anti-naemophilic factor IX.  
 A/Reference number: I45891; MUID:8227386; PMID:6287289  
 A/Accession: I45891  
 A/Status: translated from GB/EMBL/DDBJ  
 A/Molecule type: mRNA  
 A/Residues: 52-139 <CHO>

A:Accession: A21337  
A:Molecule type: mRNA  
A:Residues: 1193, 'T', 195-461 <JAY>  
A:Cross-references: GB:J00137, NID:9182610; PIDN:AAA52763.1; PID:g182611  
R:Jagadeeswaran, P.; Lavelle, D.E.; Kaul, R.; Mohandas, T.; Warren, S.T.  
Somat. Cell Mol. Genet. 10, 465-473, 1984  
A:Title: Isolation and characterization of human factor IX cDNA: identification of Tag I  
A:Reference number: A37546; MUID:84300526; PMID:6089357  
A:Accession: A37546  
A:Molecule type: mRNA  
A:Residues: 38-193, 'T', 195-326 <JAG>  
A:Cross-references: GB:M35672  
R:Kurachi, K.; Davie, E.W.  
Proc Natl Acad Sci U S A. 79, 6461-6464, 1982  
A:Title: Isolation and characterization of a cDNA coding for human factor IX.  
A:Reference number: A30623; MUID:83065193; PMID:6599130  
A:Accession: A30623  
A:Molecule type: mRNA  
A:Residues: 1-12, 'S', '14-73', 'P', '75-82', 'K', '84-203', 'P', '205-216', 'G', '218-298', 'A', '299-356', 'A',  
A:Cross-references: GB:J00136; NID:g182608; PIDN:AAA98726.1; PID:g182609  
A:Experimental source: liver  
R:Tharakan, J.; Strickland, D.; Burgess, W.; Drohan, W.N.; Clark, D.B.  
Vox Sang. 58, 21-29, 1990  
A:Title: Development of an immunofluorescence process for factor IX purification.  
A:Reference number: A60486; MUID:90194857; PMID:2316207  
A:Accession: A60486  
A:Molecule type: protein  
A:Residues: 47-52, 'XX', 55-60, 'X', 62, 'XX', 65 <THA>  
R:McMullen, B.A.; Fujikawa, K.; Kisiel, M.  
Biochem. Biophys. Res. Commun. 115, 8-14, 1983  
A:Title: The occurrence of beta-hydroxyaspartic acid in the vitamin K-dependent blood co  
A:Reference number: A20274; MUID:83308813; PMID:6688526  
A:Accession: A20274  
A:Molecule type: protein  
A:Residues: 105-109, 'X', 111-115 <MCW>  
R:Balland, A.; Faure, T.; Carvallo, D.; Cordier, P.; Ulrich, P.; Fournet, B.; de la Salle  
Eur. J. Biochem. 172, 565-572, 1988  
A:Title: Characterization of two differently processed forms of human recombinant factor  
A:Reference number: S02527; MUID:88166735; PMID:3280312  
A:Accession: S02527  
A:Molecule type: protein  
A:Residues: 29-63 <BML>  
A:Note: processed forms expressed in recombinant system  
R:Jallat, S.; Perraud, F.; Dalemans, W.; Balland, A.; Dieterle, A.; Faure, T.; Meunier,  
EMBO J. 9, 3295-3301, 1990  
A:Title: Characterization of recombinant human Factor IX expressed in transgenic mice at  
A:Reference number: S12058; MUID:91006024; PMID:2209546  
A:Accession: S12058  
A:Molecule type: mRNA; protein  
A:Residues: 1-68 <JAL>  
A:Note: processed forms expressed in recombinant system  
R:Handford, P.A.; Barton, M.; Mayhew, M.; Willis, A.; Beesley, T.; Brownlee, G.G.; Campbe  
EMBO J. 9, 475-480, 1990  
A:Title: The first EGF-like domain from human factor IX contains a high-affinity calcium  
A:Reference number: S12377; MUID:90151623; PMID:2406129  
A:Accession: S12377  
A:Molecule type: protein  
A:Residues: 92-130 <HAN>  
A:Note: NMR detection of calcium binding by domain expressed in recombinant system  
R:de la Salle, C.; Charmanier, J.L.; Baas, M.J.; Schwartz, A.; Wiesel, M.L.; Grunbaum,  
Thromb. Haemost. 70, 370-371, 1993  
A:Title: A deletion located in the 3' non translated part of the factor IX gene respons  
A:Reference number: I59612; MUID:94054330; PMID:8236150  
A:Accession: I59612  
A:Status: translated from GB/BMML/DBD  
A:Molecule type: DNA  
A:Residues: 444-461 <RES>  
A:Cross-references: GB:S66752, NID:g439773; PIDN:AB28588.1; PID:g439774  
R:Stofflet, E.S.; Koeberl, D.D.; Sarkar, G.; Sommer, S.S.  
Science 239, 491-494, 1988  
A:Title: Genomic amplification with transcrip sequencing.  
A:Reference number: I59529; MUID:88127096; PMID:3340835  
A:Accession: I59529  
A:Status: translated from GB/EMBL/DBD  
A:Molecule type: DNA  
A:Residues: 290-359 <RR2>  
A:Cross-references: GB:M19063; NID:g182622; PIDN:AAA52456.1; PID:g182623  
R:Gargwala, K.L.; Kawabata, S.; Takeo, T.; Murata, H.; Shimomishi, Y.; Nishimura, H.; Iwe  
Biochemistry 33, 5167-5171, 1994  
A:Title: Activation peptide of human factor IX has oligosaccharides O-glycosidically lin  
A:Reference number: A54255; MUID:94227047; PMID:8172892  
A:Accession: A54255  
A:Molecule type: protein  
A:Residues: 'D', 204, 'X', 206-211, 212, 'D', 214, 'X', 216-221, 'D' <AGA>  
A:Note: the residues designated 'X' were determined to be threonine bound to carbohydrate  
R:Di Scipio, R.G.; Kurachi, K.; Davie, E.W.  
J. Clin. Invest. 61, 1528-1538, 1978  
A:Title: Activation of human factor IX (Christmas factor).  
A:Reference number: A18483; MUID:78194509; PMID:659613  
A:Contents: annotation; activation; active site; carbohydrate binding  
R:McGraw, R.A.; Davis, L.M.; Noyes, C.M.; Graham, J.B.; Roberts, H.R.; Stafford, D.W.  
Am. Soc. Hematol. Abstr. 64 (Suppl. 1), 262a, 1984  
A:Reference number: A37569  
A:Contents: annotation  
A:Note: 194-Thr was also found  
R:Morita, T.; Isaacs, B.S.; Emon, C.T.; Johnson, A.E.  
J. Biol. Chem. 259, 5698-5704, 1984  
A:Title: Derivatives of blood coagulation factor IX contain a high affinity Ca2+-binding  
A:Reference number: A37543; MUID:84185715; PMID:6425236  
A:Contents: annotation; calcium binding  
R:Morita, T.; Isaacs, B.S.; Emon, C.T.; Johnson, A.E.  
J. Biol. Chem. 260, 2583, 1985  
A:Reference number: A37544  
A:Contents: annotation; calcium binding, correction  
R:Benfley, A.K.; Rees, D.D.G.; Rizza, C.; Brownlee, G.G.  
Cell 45, 343-348, 1986  
A:Title: Defective propeptide processing of blood clotting factor IX caused by mutation (C  
A:Reference number: A37545; MUID:86189947; PMID:3093023  
A:Contents: annotation; signal sequence cleavage site  
R:Shenoi, K.; Kawabata, S.I.; Miyata, T.; Takeya, H.; Takamatsu, J.; Ogata, K.; Kamaya,  
J. Biol. Chem. 264, 21257-21265, 1989  
A:Title: Blood clotting factor IX B(N) Nagoya: substitution of arginine 180 by tryptophan  
A:Reference number: A30622; MUID:90078229; PMID:2592373  
A:Contents: annotation; sequence of mutant B(N) Nagoya  
A:Contents: annotation; glycosylation, and cleavage sites  
R:Baron, M.; Norman, D.G.; Harvey, T.S.; Hanford, P.A.; Mayhew, M.; Tse, A.G.D.; Brownle  
submitted to the Brookhaven Protein Data Bank, November 1991  
A:Reference number: A51252; PDB:1IYA  
A:Contents: annotation; conformation by (1)H-NMR, residues 92-130  
A:Note: recombinant form expressed in yeast  
C:Comment: Factor IX is activated by factor XIa, which excises the activation peptide pr  
C:Comment: The gamma-carboxyglutamic acid residues arise by posttranslational, vitamin K  
C:Comment: Calcium binds to the gamma-carboxyglutamic acid (Gla) residues and, with stro  
C:Genetics:  
A:Gene: GDB:P9  
A:Cross-references: GDB:119900; OMIM:306900  
A:Map position: Xq27.1-Xq27.2  
A:Insertions: 30/1; 84/2; 93/1; 131/1; 174/1; 241/3; 280/1  
C:Function:  
A:Description: catalyzes the proteolytic activation of coagulation factor X in the prese  
A:Pathway: blood coagulation intrinsic pathway  
C:Superfamily: coagulation factor X; BGF homology; Gla domain homology; trypsin homology  
C:Keywords: beta-hydroxyaspartic acid; blood coagulation; calcium binding; carboxyglutam  
F1-28/Domain: signal sequence #status predicted <SIG>  
F1-29-46/Domain: propeptide #status experimental <PPT>  
F1-91/Domain: Gla domain homology <Gla>  
F1-97-191/Product: coagulation factor IXa light chain #status experimental <AUC>  
F1-97-128/Domain: BGF homology <EG1>  
F1-92-226/Domain: activation peptide #status experimental <ACT>  
F1-227-461/Product: coagulation factor IXa heavy chain #status experimental <AHC>  
F1-227-461/Domain: trypsin homology <TRY>  
F1-53, 54, 61, 63, 66, 67, 72, 73, 76, 79, 82, 86/Modified site: gamma-carboxyglutamic acid (Glu) #  
F1-64-69, 97-108, 102-117, 119-128, 134-145, 141-155, 157-170, 178-335, 252-268, 382-396, 407-435/D  
F1-99/Binding site: carbohydrate (Ser) (covalent) #status experimental  
F110/Modified site: erythro-beta-hydroxyaspartic acid (Asp) #status experimental

```

Db      201 GGCPCWQALMNG-STLLCGSLDTHWVSAACFDKLSLRNLTLYLGHEDLSHEGDE 259
      236 LLDLKEVFNPNYSSTTDNDIALHQAQATLSQTVPCICDSDSLARELNAGGET 295
      260 QVRHYAQLIMPDKYVQKTDHIALRLQPAALTNVVPICLPERNFSESTLATI-RFS 318
      296 LVTGNG---YSSSREKAKRNTFYLNFIKIPVFNPECSEVM-----SNWSENMLCAG 347
      319 RVSGGQLLYRGALAE-----LMAIDVPLMQDCVQSEHNGSPVYTGNNPCAG 370
      348 ILGDQDACEGDSGGPVPVAFHGTFTVLGVLVSGEGGLHNYGVYTKVSRYLWIHGI 407
      371 YLDGSKDCKGDSGGPHATSYHGT-YLGVVSGECARVGVYTRVSDTEWLSRLM 429
      408 RDK 410
      430 RSK 432

```

## RESULT 12

```

A30351
coagulation factor IXa (EC 3.4.21.22) precursor - dog
C/Species: Canine lupus familiaris (dog)
C/Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
C/Accession: A30351; 146201
R/Evans, J.P.; Watzke, H.H.; Ware, J.L.; Stafford, D.W.; High, K.A.
Blood 74, 207-212, 1989
A/Title: Molecular cloning of a cDNA encoding canine factor IX.
A/Reference number: A30351; PMID:89323338; PMID:2752110
A/Accession: A30351
A/Status: preliminary
A/Molecule type: mRNA
A/Residues: 1-452 <ENA>
A/Cross-references: GB:M31826; NID:g163949; PIDN:AA5006.1; PID:g163948
R/Abelrod, J.H.; Read, W.S.; Brinkhaus, K.M.; Verma, I.M.
Proc. Natl. Acad. Sci. U.S.A. 87, 5173-5177, 1990
A/Title: Phenotypic correction of factor IX deficiency in skin fibroblasts of hemophilic
A/Reference number: 146201; PMID:90311364; PMID:2367529
A/Accession: 146201
A/Status: preliminary; translated from GB/EMBL/DBD
A/Molecule type: mRNA
A/Residues: 1-452 <XN>
A/Cross-references: GB:M31826; NID:g163949; PIDN:AA5006.1; PID:g163950
C/Superfamily: coagulation factor IX; EGF homology; Gla domain homology; trypsin homology
C/Keywords: beta-hydroxyaspartic acid; blood coagulation; calcium binding; carboxyglutam
F/1-21/Domain: signal sequence #status predicted <PRO>
F/22-40/Domain: propeptide #status predicted <PRO>
F/24-84/Domain: Gla domain homology <GLA>
F/41-452/Product: coagulation factor IX #status predicted <MAT>
F/90-121/Domain: EGF homology <EGF>
F/127-163/Domain: EGF homology <EG2>
F/218-445/Domain: trypsin homology <TRY>
F/46/47,54,56,59,60,65,66,69,72,75,79/Modified site: gamma-carboxyglutamic acid (Glu) #
F/57-62,90-101,95-110,112-121,127-133,134-145,150-163,171-326,243-259,373-387,398-426/DI
F/258,306,402/Active site: His, Asp, Ser #status predicted

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Query Match 32.8%; Score 763; DB 1; Length 452;

Best Local Similarity 36.9%; Pred. No. 2,1e-48;

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Matches 158; Conservative 73; Mismatches 141; Indels 56; Gaps 12;
      5 LEEIRSSLEECIEICDEFEAKELFQNVDDTLAFMSKHVDGQCLVLPHEHCASLCC 64
      45 LEEFVGNLERECIEKCFEEAEVFNTEKTEFEWQYVGDQCESNP-----CL 96
      65 GAGTCIDIGTSCDCSSGNEGFQREHSEFLNSLNGGCHYGLCEVGMRR---CSGA 121
      97 NDGVCDDINSYECRCAGFGKNCGLDVT---NNNGKCKQPC-KLGPDKKVCSCCT 151
      122 PGYGLDDLLQCHPAVFPQGR---PFRKMEKKSHLKRTDEDOEDVD----- 167
      152 TGYQLADQRCSEPAVFPQGRVSVHISMRTAETLPSNMDYENSFEVEXKIDLVTPQ 211

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      168 ----PELIDGKMTGRGDSQWQVLLDSKKLACGAVLHPSVTLTAHCDSESKLVEL 223
      212 LNDFTRVGQDAPQGFPMQ-VLNGKVDAFCGGSINKEKWTAAHCEIPEVTKTTIVA 270
      224 GEYDLARKEKELDLIDKEVFNPNYSST--DNDIALHQAQATLSQTVPCICDSDSL 281
      271 GEHTEKREHTEQRNVRTILHSHVNTIKRYNDHALLDEPLTNSVVPIC---- 326
      282 GLARELNO-----AGQFTLVGNGYSSREKAKRNTFYLNFIKIPVFNPECSEVM 335
      327 -IDREYSNIFLAKGSG---YSGMGRFNNGRSA-----ILQTLKVPVDRATCLRSI 377
      336 SNWSENMLCAGILGDQDACEGDSGGPVPVAFHGTFTVLGVLVSGEGGLHNYGVYTK 395
      378 KFTYNNMFCAGFHGGKDCQDSCGPHVTEVIGISFLGLIISGECAMKKGXYGIYK 437
      396 VSRYLDMI 403
      438 VSRVYVMI 445

```

## RESULT 13

```

KFEHT
coagulation factor IXa (EC 3.4.21.22) precursor [validated] - human
N/Alternate names: antihemophilic factor B; Christmas factor
C/Species: Homo sapiens (man)
C/Date: 17-Dec-1982 #sequence_revision 30-Jun-1987 #text_change 15-Sep-2000
C/Accession: A00922; A37570; A30511; A32989; A22673; A21337; A37546; A30623; A60486; A202
R/Yoshitake, S.; Schach, B.G.; Foster, D.C.; Davie, E.W.; Kirsch, K.
Biochemistry 24, 3736-3750, 1985
A/Title: Nucleotide sequence of the gene for human factor IX (antihemophilic factor B).
A/Reference number: A00922; PMID:8600558; PMID:2994716
A/Accession: A00922
A/Molecule type: DNA
A/Residues: 1-461 <YOS>
A/Cross-references: GB:K02402; NID:g182612; PIDN:AA59620.1; PID:g182613
R/Anson, D.S.; Choo, K.H.; Rees, D.J.G.; Giamelli, F.; Gould, K.; Huddleston, J.A.; Brox
EMBO J. 3, 1053-1060, 1984
A/Title: The gene structure of human anti-haemophilic factor IX.
A/Reference number: A37570; PMID:84236100; PMID:6329734
A/Accession: A37570
A/Molecule type: DNA
A/Residues: 1-461 <ANS>
A/Cross-references: GB:K02048
R/Koeble, P.H.; Bertina, R.M.; Ploos van Amstel, J.K.; Riemens, A.; Briet, E.
Blood 72, 1074-1076, 1988
A/Title: The putative factor IX gene promoter in hemophilia B Leyden.
A/Reference number: A30511; PMID:88327116; PMID:3416069
A/Accession: A30511
A/Molecule type: DNA
A/Residues: 8-24 <REI>
A/Cross-references: EMBL:X55008; NID:g311288; PIDN:CA838245.2; PID:g4469253
R/Koeble, D.D.; Bottema, C.D.K.; Buerstede, J.M.; Sommer, S.S.
Am. J. Hum. Genet. 45, 448-457, 1989
A/Title: Functionally important regions of the factor IX gene have a low rate of polymor
A/Reference number: A32989; PMID:89371752; PMID:2773937
A/Accession: A32989
A/Status: not compared with conceptual translation
A/Molecule type: DNA
A/Residues: 30-92 <XOB>
R/McGraw, R.A.; Davis, L.M.; Noyes, C.M.; Lundblad, R.L.; Roberts, H.R.; Graham, J.B.; St
Proc. Natl. Acad. Sci. U.S.A. 82, 2847-2851, 1985
A/Title: Evidence for a prevalent dimorphism in the activation peptide of human coagulat
A/Reference number: A22673; PMID:85190593; PMID:3857619
A/Accession: A22673
A/Molecule type: mRNA
A/Residues: 1-193, 'T', 195-461 <MCG>
A/Cross-references: GB:M11309; NID:g180552; PIDN:AA52023.1; PID:g180553
A/Note: the authors translated the codon ACA for residue 29 as Tyr
R/Jay, M.; de la Salle, H.; Schamber, F.; Ballard, A.; Kohli, V.; Fündeli, A.; Tolstoshe
Nucleic Acids Res. 11, 2325-2333, 1983
A/Title: Isolation of a human anti-haemophilic factor IX cDNA clone using a unique 52-ba
A/Reference number: A21337; PMID:89220788; PMID:6687940

```

Db 113 SPQNGSGCKDQSLQSYICFLPAFEGNCEHTHKDQICVNGGCEQYCSDHGTGRSC 172

QY 119 SCAPGYKLDGDLQCHPAVKFPCGRPMKMEKRSKSHLKRTDEQDQDQDPLDGMKTR 178

Db 173 RHEGYSGLADGVSCTPTVEYPOCK-IPLEKRNA-----SKQGIYGVKVCCK 221

QY 179 GDSFWQVLLDSSKKKLAGAVLIHPSWVLTAAHCDKDESK---KLVRLGEYDLRMEKME 235

Db 222 GECFQVLLDQVLAQQL-CGGTLLINTWVSAAHCFDKIKMKNRLTAVLGEHDSLEHDSGE 280

QY 236 LDLDIXEVFHHNYSKSTTNDIALHLAQPATLSQTIPTCLPDSGLARELNQAGQET 295

Db 291 QSRVAVQVLIIPSTYPTGTTHNDIALRLHQPVLLTDVHVPDLCIPERTSEKTLAFV-RFS 339

QY 296 LVYWGYSRREKREKRNRTFVNLFIKIPVPHNCESEWN-----SNVSNMLCAGILG 350

Db 340 LVSGWQQLDNRGNTA-----LELMVNLNVPRLTQDCLQSKRKVGSFNITVYKCAGYSD 394

QY 351 DRDACEGDSGGPMWASPHGTWFLVGLVSGEGCGLLHNYSVYTKVSRYLDMIGHIRDK 410

Db 395 GSKDCKDGSQGPHTATRGVTLTGIVSGGCACTVGHGVYTRVSYIEMQLCKMRSE 454

QY 411 EAP 413

Db 455 PRP 457

## RESULT 10

coagulation factor VIIa (BC 3.4.21.21) - bovine

CSpecies: Bos primigenius taurus (cattle)

CDate: 21-May-1990 #sequence\_revision 23-Mar-1995 #text\_change 16-Jul-1999

CAccession: A31979; C20274

RTakeya, H.; Kawabata, S.; Nakagawa, K.; Yamamichi, Y.; Miyata, T.; Iwanaga, S. J. Biol. Chem. 263, 14868-14877, 1988

A>Title: Bovine factor VII. Its purification and complete amino acid sequence.

A:Reference number: A31979; PMID:89008362; PMID:3049594

A:Accession: A31979

A:Molecule type: protein

A:Residues: 1-407 <TRK>

RMcMullen, B.A.; Fujikawa, K.; Kisiel, W. Biochem. Biophys. Res. Commun. 115, 8-14, 1983

A>Title: The occurrence of beta-hydroxyaspartic acid in the vitamin K-dependent blood coagulation factor VII. Its purification and complete amino acid sequence.

A:Reference number: A20274; PMID:83308813; PMID:6688526

A:Accession: C20274

A:Molecule type: protein

A:Residues: 58-62, X, 64-68 <MCK>

A>Note: the residue designated 'X' was determined to be hydroxyaspartic acid

RHaee, S.; Kawabata, S.; Nishimura, H.; Takeya, H.; Sueyoshi, T.; Miyata, T.; Iwanaga, S. J. Biochem. 104, 867-868, 1988

A>Title: A new trisaccharide sugar chain linked to a serine residue in bovine blood coagulation factor VII. Its purification and complete amino acid sequence.

A:Reference number: A44556; PMID:89213999; PMID:3149637

A:Accession: A44556

A:Molecule type: protein

A:Residues: 1-407 <TRK>

A:Accession: A44556

A:Molecule type: protein

A:Residues: 1-407 <TRK>

A:Accession: A44556

A:Molecule type: protein

A:Residues: 1-407 <TRK>

A:Accession: A44556

A:Molecule type: protein

A:Residues: 1-407 <TRK>

A:Accession: A44556

A:Molecule type: protein

A:Residues: 1-407 <TRK>

A:Accession: A44556

A:Molecule type: protein

A:Residues: 1-407 <TRK>

A:Accession: A44556

A:Molecule type: protein

A:Residues: 1-407 <TRK>

A:Accession: A44556

A:Molecule type: protein

A:Residues: 1-407 <TRK>

A:Accession: A44556

A:Molecule type: protein

F:290-291/Cleavage site: Arg-Gly (coagulation factor Xa) #status experimental

Query Match 33.5%; Score 779.5; DB 1; Length 407;

Best Local Similarity 39.6%; Pred. No. 1.2e-49;

Matches 166; Conservative 64; Mismatches 150; Indels 39; Gaps 11;

1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

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1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

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1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

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1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

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1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

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1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

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1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

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1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60

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1 ANSFEELRHSLSRECEIEICDEFEAKETIPONVDTLATNSKNDVQDQVLPLEHPCA 60



A:Accession: S20380  
 A:Molecule type: protein  
 A:Residues: 41-55 <G02>  
 A:Accession: S20381  
 A:Molecule type: protein  
 A:Residues: 241-246, 'X', 248-251, 'X', 253-261 <G07>  
 C:Function:  
 A:Description: catalyzes the proteolytic activation of prothrombin to thrombin in the presence of calcium ions  
 A:Pathway: blood coagulation  
 C:Superfamily: coagulation factor X; EGF homology; Gla domain homology; trypsin homology  
 C:Keywords: beta-hydroxyaspartic acid; blood coagulation; calcium binding; carboxylglutamic acid  
 F:1-20/Domains: signal sequence #status predicted <SIG>  
 F:21-40/Domains: propeptide #status predicted <PRO>  
 F:41-185/Product: coagulation factor X light chain #status experimental <UCH>  
 F:90-121/Domains: EGF homology <EG2>  
 F:129-167/Domains: EGF homology <EG2>  
 F:186-475/Product: activation peptide #status predicted <ACT>  
 F:241-475/Product: coagulation factor Xa heavy chain #status experimental <AHC>  
 F:241-468/Domains: trypsin homology <TRY>  
 F:46-47, 54, 55, 60, 65, 66, 69, 72, 75, 79/Modified sites: gamma-carboxylglutamic acid (Glu) #  
 F:57-62, 90-101, 95-110, 112-121, 129-140, 136-152, 154-167, 175-348, 247-252, 267-283, 396-410, 42  
 F:103/Modified sites: erythro-beta-hydroxyaspartic acid (Asp) #status predicted  
 F:156, 207, 228, 285/Binding site: carboxylate (Asn) (covalent) #status predicted  
 F:282, 328, 425/Active site: His, Asp, Ser #status predicted

Query Match 34.5%; Score 801.5; DB 1; Length 475;  
 Best Local Similarity 36.1%; Pred. No. 3.4e-51;  
 Matches 163; Conservative 84; Mismatches 147; Indels 57; Gaps 8;

QY 1 ANSPLEIRHSSLEKCEIEICDPEAKETFOVNDTLAFWSKHVDDQCLVPLEHPCA 60  
 DB 41 ANSPLEIRHSSLEKCEIEICDPEAKETFOVNDTLAFWSKHVDDQCLVPLEHPCA 60  
 QY 61 SLCCGHTCTIDIGSFCDCSGWEGFPCQREVSFLNCSLDNGCTHYCLEAVGMR 117  
 DB 95 --CHVGCKDGLGYSYTCGLDYGQKNCDFVIR-KYCKINNGDCEFGSIRKSYQKDV 151  
 QY 118 GCGAGYGLDGLDGLQHPVPCPGPRGPKMKMKKSHLRD-----TEQ----- 162  
 DB 152 GCGTSGYLAEDGKQCVKPKCKVMKRIKRSYIPLTMSNTNATSDVDVPSNGSIL 211  
 QY 163 -----EDVDPRLIDSKMTRGDSPPMVLVLSKKKLACGAVL 200  
 DB 212 EGVFTTSTPTSPPNSSIDPVDRIIVGSDDEKREPCQAVLANKKEPCGCTI 271  
 QY 201 IHPSWYLAHQMDSEKLLVRLGYDIRMEKMEILDIDKEVPHNYSKSTNDIAL 260  
 DB 272 IHPSWYLAHQMDSEKLLVRLGYDIRMEKMEILDIDKEVPHNYSKSTNDIAL 331  
 QY 261 IHLAOPALTSQTVPCICLPSGLAREL--NOAGETVLVGMGYSSEKKEKRPVLN 319  
 DB 332 IKRKEPISFSEYVPAALFQAPNVEVLMN--KSGMSGKREPEKGRISKR-----LK 384  
 QY 320 FIKIPVPHNESEVSNMNSNNMLCAGILGRQDACEGSGCPVASFHGTFLVGLVS 379  
 DB 385 VLEVYVDRSTCKQSTNPAITENMFCAGYETEKQACQDSGCPHYRKYDTFVGLVS 444  
 QY 380 WEGCGLLHNTGYTTKVSRYLDWTHGTRDX 410  
 DB 445 WEGCGARAKGKYGVYTKLSRFLRWVTVWRK 475

RESULT 9  
 KFHU7  
 coagulation factor VIIa (EC 3.4.21.21) precursor [validated] - human  
 C:Species: Homo sapiens (man)  
 C:Date: 19-May-1989 #sequence revision 19-May-1994 #text\_change 08-Dec-2000  
 C:Accession: A28322; A23819; A1186; B31186; S63524  
 R:O'Hara, P.J.; Grant, F.J.; Haldebrand, B.A.; Gray, C.L.; Insley, M.Y.; Hagen, F.S.; Muri  
 Proc. Natl. Acad. Sci. U.S.A. 84, 5158-5162, 1987  
 A:Title: Nucleotide sequence of the gene coding for human factor VII, a vitamin K-depend

A:Reference number: A28322; MUID:87260948; PMID:3037537  
 A:Accession: A28322  
 A:Molecule type: DNA  
 A:Residues: 1-466 <OHA>  
 A:Cross-references: GB:012933; NID:9180333; PIDN:AA51983.1; PID:9180334  
 R:Hagen, F.S.; Gray, C.L.; O'Hara, P.J.; Grant, F.J.; Saari, G.C.; Woodbury, R.G.; Hart, C.  
 Proc. Natl. Acad. Sci. U.S.A. 83, 2412-2416, 1986  
 A:Title: Characterization of a cDNA coding for human factor VII.  
 A:Reference number: A23819; MUID:86205965; PMID:3486420  
 A:Accession: A23819  
 A:Molecule type: mRNA  
 A:Residues: 1-466 <HAC>  
 A:Cross-references: GB:M13232; NID:9182799; PIDN:AA88040.1; PID:9182801  
 R:Thim, L.; Bjorn, S.; Christensen, M.; Nicolaisen, E.M.; Lund-Hansen, T.; Pedersen, A.  
 Biochem. J. 27, 7785-7793, 1988  
 A:Title: Amino acid sequence and posttranslational modifications of human factor VII-a  
 A:Reference number: A90539; MUID:89080153; PMID:3264725  
 A:Accession: A31186  
 A:Molecule type: protein  
 A:Residues: 61-212 <THI>  
 A:Accession: B31186  
 A:Molecule type: protein  
 A:Residues: 213-466 <TH2>  
 A:Residues: S.; Foster, D.C.; Thim, L.; Wibergh, F.C.; Christensen, M.; Komiyama, Y.; Pedersen, S.; Bjorn, S.; Bjorn, S.; Christensen, M.; Nicolaisen, E.M.; Lund-Hansen, T.; Pedersen, A.  
 U. Biochem. J. 266, 11051-11057, 1991  
 A:Title: Human plasma and recombinant factor VII. Characterization of O-glycosylations at  
 A:Reference number: A40529; MUID:91250411; PMID:1904059  
 A:Contents: annotation; carbohydrate binding sites  
 R:Persson, E.; Petersen, L.C.  
 Eur. J. Biochem. 234, 293-300, 1995  
 A:Title: Structurally and functionally distinct Ca(2+) binding sites in the gamma-carboxy  
 A:Reference number: S63524; MUID:96096752; PMID:8529655  
 A:Accession: S63524  
 A:Molecule type: protein  
 A:Residues: 61-65; 99-103; 105-109; 213-217; 308-312 <PER>  
 C:Genetic: GDB:F7  
 A:Gene: GDB:F7  
 A:Cross-references: GDB:119897; OMIM:227500  
 A:Map position: 13q34-13q34  
 A:Introns: 22/1; 44/1; 97/3; 106/1; 144/1; 191/1; 227/3; 269/1  
 C:Function:  
 A:Description: catalyzes the proteolytic activation of coagulation factor X in the presence of calcium and tissue factor  
 A:Pathway: blood coagulation extrinsic pathway  
 C:Superfamily: coagulation factor X; EGF homology; Gla domain homology; trypsin homology  
 C:Keywords: beta-hydroxyaspartic acid; blood coagulation; calcium binding; carboxylglutamic acid  
 F:1-20/Domains: signal sequence #status predicted <PRO>  
 F:21-60/Domains: propeptide #status predicted <PRO>  
 F:45-104/Domains: Gla domain homology <GLA>  
 F:61-212/Product: coagulation factor VIIa light chain #status experimental <ML>  
 F:110-141/Domains: EGF homology <EG2>  
 F:151-187/Domains: EGF homology <EG2>  
 F:213-466/Product: coagulation factor VIIa heavy chain #status experimental <MA2>  
 F:21-40/Domains: trypsin homology <TRY>  
 F:66, 67, 74, 76, 79, 80, 85, 86, 89, 95/Modified sites: gamma-carboxylglutamic acid (Glu) #status  
 F:77-82, 110-121, 115-130, 132-141, 151-162, 158-172, 174-187, 195-322, 219-224, 238-254, 370-389, 4  
 F:113/120/Binding site: carboxylate (Ser) (covalent) #status experimental  
 F:113/Modified sites: erythro-beta-hydroxyaspartic acid (Asp) #status absent  
 F:205, 382/Binding site: carboxylate (Asn) (covalent) #status experimental  
 F:212-213/Cleavage site: Arg-11e (coagulation factor XIIa) #status experimental  
 F:253, 302, 404/Active site: His, Asp, Ser #status predicted  
 F:350-351/Cleavage site: Arg-Gly (coagulation factor Xa) #status predicted

Query Match 33.7%; Score 783; DB 1; Length 466;  
 Best Local Similarity 38.8%; Pred. No. 7.5e-50;  
 Matches 164; Conservative 76; Mismatches 147; Indels 36; Gaps 10;

QY 1 ANSPLEIRHSSLEKCEIEICDPEAKETFOVNDTLAFWSKHVDDQCLVPLEHPCA 60  
 DB 61 ANSPLEIRHSSLEKCEIEICDPEAKETFOVNDTLAFWSKHVDDQCLVPLEHPCA 60  
 QY 61 SLCCGHTCTIDIGSFCDCSGWEGFPCQ-REVSFLNCSLDNGCTHYCLEAVGMR-C 118

A:Residues: 1-15 <MTA>  
 A:Experimental source: liver  
 A:Note: Sequence extracted from NCBI backbone (NCBIN:93780, NCBI:P.93787)  
 R.Kall, R.K.; Hildebrand, B.; Roberts, S.; Jagadeeswaran, P.  
 Gene 41, 311-314, 1986  
 A:Title: Isolation and characterization of human blood-coagulation factor X cDNA.  
 A:Reference number: A25853; MUID:86221713; PMID:3011603  
 A:Accession: A25853  
 A:Molecule type: mRNA  
 A:Residues: 15-284, 'E', 289-488 <XNU>  
 A:Cross-references: GB:M2613; NID:9180335; PIDN:AA51984.1; PID:9180336  
 R.Fung, M.R.; Hay, C.W.; MacGillivray, R.T.A.  
 Proc. Natl. Acad. Sci. U.S.A. 82, 3591-3595, 1985  
 A:Title: Characterization of an almost full-length cDNA coding for human blood coagulation factor X.  
 A:Reference number: A22208; MUID:85216545; PMID:2582420  
 A:Accession: A22208  
 A:Molecule type: mRNA  
 A:Residues: 13-441, 'S', 443-488 <PUN>  
 A:Cross-references: GB:K03194; NID:9182840; PIDN:AA52490.1; PID:9182841  
 R.Kay, S.P.; Chung, D.W.; Kistiel, W.; Kurachi, K.; Davie, E.W.  
 Proc. Natl. Acad. Sci. U.S.A. 81, 3699-3702, 1984  
 A:Title: Characterization of a cDNA coding for human factor X.  
 A:Reference number: A21284; MUID:84222026; PMID:6587384  
 A:Accession: A21284  
 A:Molecule type: mRNA  
 A:Residues: 13-284, 'E', 289-488 <LE2>  
 A:Cross-references: GB:K01886  
 R.McMullen, B.A.; Fujikawa, K.; Kistiel, W.; Sasagawa, T.; Howald, W.N.; Kwa, E.Y.; Weiss  
 Biochemistry 22, 2875-2884, 1983  
 A:Title: Complete amino acid sequence of the light chain of human blood coagulation factor X.  
 A:Reference number: A20362; MUID:83257207; PMID:6871167  
 A:Accession: A20362  
 A:Molecule type: protein  
 A:Residues: 41-179 <MCX>  
 R.Inoue, K.; Morita, T.  
 Eur. J. Biochem. 218, 153-163, 1993  
 A:Title: Identification of O-linked oligosaccharide chains in the activation peptides of human blood coagulation factor X.  
 A:Reference number: S39414; MUID:94062825; PMID:8243461  
 A:Accession: S39414  
 A:Molecule type: protein  
 A:Residues: 183-234 <INO>  
 A:Note: glycosylation sites  
 A:Note: identification and characterization of beta-hydroxyaspartic acid  
 R.Jagadeeswaran, P.; Reddy, S.V.; Rao, K.V.; Hamanahnanam, K.; Lyman, G.  
 Gene 88, 517-519, 1989  
 A:Title: Cloning and characterization of the 5' end (exon 1) of the gene encoding human blood coagulation factor X.  
 A:Reference number: I54051; MUID:90128299; PMID:2612918  
 A:Accession: I54051  
 A:Status: translation not shown; translated from GB/EMBL/DBJ  
 A:Molecule type: DNA  
 A:Residues: 1-23 <RES>  
 A:Cross-references: GB:M33297; NID:9183660; PIDN:AA52636.1; PID:9553330  
 R.Padmanabhan, K.; Padmanabhan, K.P.; Tulinsky, A.; Park, C.H.; Bode, W.; Huber, R.; Blad  
 J. Mol. Biol. 232, 947-966, 1993  
 A:Title: Structure of human des(1-45) factor Xa at 2.2 angstroms resolution.  
 A:Reference number: A49458; MUID:93360277; PMID:8355279  
 A:Contents: annotation; X-ray crystallography, 2.2 angstroms  
 C:Comment: The two chains held together by one disulfide bond are formed from a single-cysteine.  
 C:Comment: The activation peptide is cleaved by factor IXa (in the intrinsic pathway) or factor XIa (in the extrinsic pathway).  
 A:Gene: GDB:F10  
 A:Cross-references: GDB:119890; CMTM:227600  
 A:Map position: 13634-13634  
 A:Annotations: 24/1, 77/3, 86/1, 124/1, 150/3, 249/3, 289/1  
 A:Note: deficiency of this factor causes Stuart disease  
 C:Function:  
 A:Description: catalyzes the proteolytic activation of prothrombin to thrombin in the presence of factor V and calcium ions.  
 C:Superfamily: coagulation factor X; BGF homology; Gla domain homology; trypsin homology  
 C:Keywords: beta-hydroxyaspartic acid; blood coagulation; calcium binding; carboxylglutamate  
 F:1-23/Domain: signal sequence #status predicted <SIG>  
 F:24-40/Domain: propeptide #status predicted <PRO>  
 F:25-84/Domain: Gla domain homology <GLA>

F:41-179/Product: coagulation factor X light chain #status experimental <LCH>  
 F:90-121/Domain: EGF homology <EGF>  
 F:129-164/Domain: EGF homology <EG2>  
 F:183-488/Product: coagulation factor X heavy chain #status experimental <HCH>  
 F:183-234/Domain: activation peptide #status experimental <AP>  
 F:235-488/Product: coagulation factor Xa heavy chain #status experimental <ACT>  
 F:235-462/Domain: trypsin homology <TRY>  
 F:46/47, 54, 56, 59, 60, 65, 66, 69, 72, 79/Modified site: gamma-carboxylglutamic acid (Glu) #status predicted  
 F:57-62/Disulfide bonds: #status predicted  
 F:90-101, 95-110, 112-121, 129-140, 136-149, 151-164, 172-342, 241-246, 261-277, 390-404, 415-443/Modified site: erythro-beta-hydroxyaspartic acid (Asp) #status experimental  
 F:139, 211/Binding site: carbohydrate (Thr) (covalent) #status experimental  
 F:221, 231/Binding site: carbohydrate (Asn) (covalent) #status experimental  
 F:234-235/Cleavage site: Arg-Tile (coagulation factor IXa, coagulation factor VIIa) #status predicted  
 F:276, 322, 419/Active site: His, Asp, Ser #status experimental

Query Match 34.8% Score 809; DB 1; Length 488;  
 Best Local Similarity 35.7%; Pred. No. 9.8e-53;  
 Matches 163; Conservative 87; Mismatches 151; Indels 56; Gaps 9;

QY	1	ANSFLERLHSSLEBCEIEICDPEBAKEIFQNVDDTLAFWSKRVDSQCLVPLEHPCA 60	
DB	41	ANSFLERLHSSLEBCEIEICDPEBAKEIFQNVDDTLAFWSKRVDSQCLVPLEHPCA 60	
QY	61	SLCCGAGTCTIDIGSPSCDCSGMERFQGRVSTFNCSDNCGCTHYCLEVGRRCSC 120	
DB	95	--CQNGCKDGIAGYVTCLEGEFGKNCLEFTRKL-CSLNDGDCQFCHQNSVVCSC 151	
QY	121	ARGYKLDLDDLCHPAVFPCGRPMKMKRSHLKEDEQED-----QVD 167	
DB	152	ARGYKLDLDDLCHPAVFPCGRPMKMKRSHLKEDEQED-----QVD 167	
QY	168	P-----RLIDGRMTRGDSFWQVILLDSKKKACGAVLIHS 204	
DB	210	PTEPMPDLDFNQTOPBERGDNMLRLIYVGQCECKDECPWQALLINENEGFCGGTILSEF 269	
QY	205	WTLNAAACMSKSLVPLGSDYRNRKWEMLDDIKVFPHNYSKSTNDALHLA 264	
DB	270	YLTNAAACLVQAKRRFVGRNTEDEGEVHEVAVIKNRFTKRYDDIVLRLK 329	
QY	265	OPATISQTVICLPDGLAREINQAGET-LVTGWGYSSEKRAKNTFVNFPIKI 323	
DB	330	TIITFRNVAAPALPFRDMASSTL--WTQKTVISGFRTHKRGQSTR-----LKMLEV 382	
QY	324	PVPHNECEFSWMSNMYSENMLCAGILCDRODACBGDSGPMVASFPGTFPLVGLVSWEG 383	
DB	383	PVPHNECEFSWMSNMYSENMLCAGILCDRODACBGDSGPMVASFPGTFPLVGLVSWEG 442	
QY	384	CGLLHNGYVTKYRSRLDWHIGHIRDEAPQ-KSNAP 419	
DB	443	CARKKRGITVTKYATLAKWIDRSKRTGCLPKAKSHAP 479	

RESULT 8  
 EXCH  
 coagulation factor Xa (EC 3.4.21.6) precursor - chicken  
 N/Alternate names: virus-activating proteinase  
 C/Species: Gallus gallus (chicken)  
 C/Date: 12-Feb-1993 #sequence, revision 07-Feb-1997 #text, change 16-Jul-1999  
 C/Accession: S15838; S20380; S20381  
 R.Suzuki, H.; Harada, A.; Hayashi, Y.; Wada, K.; Asaka, T.; Gotoh, B.; Ogasawara, T.; Nag  
 FEBS Lett. 283, 281-285, 1991  
 A:Title: Primary structure of the virus activating proteinase from chick embryo. Its ident  
 A:Reference number: S15838; MUID:91573222; PMID:2044767  
 A:Accession: S15838  
 A:Molecule type: mRNA  
 A:Status: not compared with conceptual translation  
 A:Residues: 1-475 <STU>  
 A:Cross-references: DBJ:D00844; NID:9222869; PIDN:BA00724.1; PID:9222870  
 R.Gotoh, B.; Yamuchi, F.; Ogasawara, T.; Nagai, Y.  
 FEBS Lett. 296, 274-278, 1992  
 A:Title: Isolation of factor Xa from chick embryo as the amniotic endoprotease responsib  
 A:Reference number: S20380; MUID:92164779; PMID:1537403

Query Match 34.8%; Score 809.5; DB 1; Length 492;  
Best Local Similarity 36.8%; Pred. No. 9, 1e-52;  
Matches 172; Conservative 72; Mismatches 150; Indels 73; Gaps 13;

F:200/Binding site: sulfate (Tyr) (covalent) (partial) #status experimental  
F:208/485/Binding site: carboxylate (Thr) (covalent) #status experimental  
F:218/Binding site: carboxylate (Asn) (covalent) #status experimental  
F:223-234/Cleavage site: Arg-11e (coagulation factor IXa, coagulation factor VIIa) #statu  
F:240-245/260-276/389-403/414-442/Disulfide bonds: #status experimental  
F:275/321,418/Active site: His, Asp, Ser #status predicted

QY 1 ANSFLERHSRLSEECLEIEICDPEPAKIFQNDOTLAWSGHVDGQCVLPLEHPCA 60  
DB 41 ANSFLERHSRLSEECLEIEACSLHEARVEFEDAQDTDFMSYKNGDCC---EGHPCL 96  
QY 61 SLCCGHSTCIDIGISFSCDCSGWEKRFQ---REVSFLNCISDNGCTHYCLESEVMR 117  
DB 97 N-----QHCCKDIGDTCTCAEGFGKNCHEFTREI-----CSLDNGCQGFRRERSEVR 148  
QY 118 CSCAPGYKLGGDLLQCHPAVYFPCGR-PKMKKKRSHLRDTE--QEDQVDP----- 168  
DB 149 CSCAHGYVLGDGDSKCVSTERFPCGKFTGSRFMAHTSEDLADLASELEHNDPADLSPT 208  
QY 169 -----RLIDKMTRRSDSPWQVVLIDSKKXLAQGVLLHPS 204  
DB 209 ESSLDLIGLNRTEPPSAGDSQVVRIVGGDCAEBCQMALLVNEENGFCGGITINER 268  
QY 269 WYLTAAHCNDSEKKLIVRLAGEYDLRMEKWEJLDLKEFVPHNYSKSTTDNDIALHLA 264  
DB 269 YVLTAAHCLHQAARFVAVRGDRNTEPEGNEMAHEVTVGHSRFVETYPDIDIAVRLK 328  
QY 265 QPRTISQTVITLPDPSGLARELNQAGET-LVYMGYHSREKAKKRRFVNLFIKI 323  
DB 329 TEIRRRNVAAPALPEKMAEARLT--MTQRTGVSGF---RTHEKRSLSTYKMLEV 361  
QY 324 PVVPHNECSYVMNMVSENNLCAGILIDRDCADESDSGGPVVASFHGTFLVGLVSWGSG 383  
DB 382 PVYDSITCKLSSFTITPMMFCAGYDQPRDCAQDSGSHVRRFMDTYFVAVGIYSWEG 441  
QY 384 CGLHNHYGVTKVSRVLDWT-----HGHTDKAKAPQKSW 417  
DB 442 CARNGKEFVYTKVSNFLKWKIDIMKARAGAAAGSRGH---SEAP-ATW 484

RESULT 7  
EXID  
coagulation factor Xa (BC 3.4.21.6) precursor [validated] - human  
N.Alternate names: Stuart factor  
C.Species: Homo sapiens (man)  
C.Date: 15-Nov-1984 #sequence, revision 02-May-1994 #text change 08-Dec-2000  
C.Accession: A24478; J00917; A42485; A25853; A22208; A21284; A20362; S39415; I54051; A006  
R.Ieytus, S.P.; Foster, D.C.; Kurachi, K.; Davie, E.W.  
Biochemistry 25, 5098-5102, 1986  
A.Title: Gene for human factor X: a blood coagulation factor whose gene organization is  
A.Reference number: A24478; MUID:87026600; PMID:3768336  
A.Accession: A24478  
A:Molecule type: DNA  
A.Residues: 1-488 <LEV>  
A:Cross-references: GB:IL29433; GB:M4377; NID:9459809; PIND:AAA52764.1; PID:g182831  
R.Wessler, R.U.; Pittman, D.D.; Long, G.L.; Kaufman, R.J.; Church, W.R.  
Gene 99, 291-294, 1991  
A>Title: Cloning and expression in COS-1 cells of a full-length cDNA encoding human coag  
A.Reference number: J00917; MUID:91216473; PMID:1902434  
A.Accession: J00917  
A:Molecule type: mRNA  
A.Residues: 1-488 <MS>  
A:Cross-references: GB:M57285; NID:g182389; PIND:AAA52421.1; PID:g182390  
R.Miao, C.H.; Leytus, S.P.; Chung, D.W.; Davie, E.W.  
J. Biol. Chem. 267, 7395-7401, 1992  
A>Title: Layer-specific expression of the gene coding for human factor X, a blood coagul  
A.Reference number: A42485; MUID:92218390; PMID:1313796  
A.Accession: A42485  
A:Molecule type: DNA

QY 179 GDSPMQVLLDSSKLLACGAVLHPSWLTAAHOMESKCLVLRGEYDLRERKEWELDL 238  
 DB 221 GDSPPALIDSSKLLACGAVLHPSWLTAAHOMESKCLVLRGEYDLRERKEWELDL 280  
 QY 239 DIKEVFNHNSKSTNDNDIALHIAQAPATLSQITPTCLPDSGLARELNQAGQETLV 298  
 DB 281 DIKEILVHNPTRSSNDNDIALHIAQAPATLSKIVPICPPNGLAQDELTOAGQETLV 340  
 QY 299 GMDYHSREKAKKRNFTVNFPIKVPVPHNECEWMSWSENNLCAGILGSDRQACBG 358  
 DB 341 GMDYQSDRIKGRNRRTFILTFRPLVARNCEWMSWSENNLCAGILGSDRQACBG 400  
 QY 359 DSGPMVAFPHGTWELVGLVSWGEGCGLLHNVGYTVKRSYLDWTHGHRDKAPQKS 416  
 DB 401 DSGPMVAFPHGTWELVGLVSWGEGCGLLHNVGYTVKRSYLDWTHGHRDKAPQKS 458

RESULT 5  
 EXRT  
 coagulation factor Xa (EC 3.4.21.6) precursor - rat  
 C:Species: Rattus norvegicus (Norway rat)  
 C:Date: 31-Jan-1995 #sequence revision 07-Feb-1997 #text\_change 08-Dec-2000  
 C:Accession: S49075; J04670; F50191; P50190; I62745  
 R:Stanton, C.; Ross, P.; Hutson, S.; Wallin, R.  
 Thromb. Res. 80, 63-73, 1995  
 A>Title: Evidence for competition between vitamin K-dependent clotting factors for intra-  
 A:Reference number: A58498; MUID:96093366; PMID:8578539  
 A:Accession: S49075  
 A:Molecule type: mRNA  
 A:Residues: 1-482 <STAL>  
 A:Cross-references: EMBL:X79807; NID:9506600; PIDD:CA56202.1; PID:9506601  
 A:Note: submitted to the EMBL Data Library, June 1994  
 R:Stanton, C.; Ross, R.P.; Hutson, S.; Wallin, R.  
 Gene 169, 269-273, 1996  
 A>Title: Processing and expression of rat and human clotting factor-X-encoding cDNAs.  
 A:Reference number: J04670; MUID:96194815; PMID:8647450  
 A:Accession: J04670  
 A:Molecule type: mRNA  
 A:Residues: 1-482 <STAL>  
 A:Cross-references: EMBL:X79807; NID:9506600; PIDD:CA56202.1; PID:9506601  
 A:Experimental source: Cos-1 cell  
 R:Enjyoji, K.; Miyazaki, K.; Kato, H.  
 J. Biochem. 109, 890-898, 1991  
 A>Title: Characterization of rat factors X and Xa: demonstration of factor Xa in rat p1a  
 A:Reference number: P50190; MUID:92041742; PMID:1718949  
 A:Accession: P50191  
 A:Molecule type: protein  
 A:Residues: 41-58, 'X', 60-65 <ENH1>  
 A:Accession: P50190  
 A:Molecule type: protein  
 A:Residues: 183-186, 'X', 188-207 <ENH2>  
 R:Murakawa, M.; Okamura, T.; Kamura, T.; Kuroiwa, M.; Harada, M.; Nihou, Y.  
 Eur. J. Haematol. 52, 162-168, 1994  
 A>Title: Analysis of the partial nucleotide sequences and deduced primary structures of  
 A:Reference number: I46196; MUID:94222160; PMID:816596  
 A:Accession: I62745  
 A>Status: preliminary; translated from GB/EWBL/DBJ  
 A:Molecule type: DNA  
 A:Residues: 295-383, 'G', 385-455 <MUR>  
 A:Cross-references: GB:D21215; NID:9415309; PIDD:BA04756.1; PID:9455396  
 A:Function:  
 A:Description: catalyzes the proteolytic activation of prothrombin to thrombin in the pr  
 A:Pathway: blood coagulation  
 C:Superfamily: coagulation factor X; EGF homology; GLA domain homology; trypsin homology  
 C:Keywords: beta-hydroxyaspartic acid, blood coagulation; calcium binding; carboxylglut  
 F:1-23/Domain: signal sequence #status predicted <PRO>  
 F:24-40/Domain: propeptide #status predicted <PRO>  
 F:25-84/Domain: GLA domain homology <GLA>  
 F:41-179/Domain: coagulation factor X light chain #status predicted <LCH>  
 F:90-121/Domain: EGF homology <EG2>  
 F:129-164/Domain: EGF homology <EG2>  
 F:183-482/Product: coagulation factor X heavy chain #status predicted <HC>

F:183-231/Domain: activation peptide #status predicted <AP>  
 F:232-482/Product: coagulation factor Xa heavy chain #status predicted <ACT>  
 F:232-460/Domain: trypsin homology <TRY>  
 F:45-47,54,56,59,60,65,66,69,72,79/Modified site: gamma-carboxylglutamic acid (Glu) #stat  
 F:57-63,90-101,95-110,112-121,129-149,136-149,151-164,172-240,238-243,259-275,388-402,413  
 F:103/Modified site: erythro-beta-hydroxyaspartic acid (Asp) #status predicted  
 F:187/Binding site: carboxylate (Asn) (covalent) #status experimental  
 F:208/Binding site: carboxylate (Thr) (covalent) #status predicted  
 F:218/Binding site: carboxylate (Asn) (covalent) #status predicted  
 F:231-232/Cleavage site: Arg-116 (coagulation factor IXa, coagulation factor VIIa) #stat  
 F:274,320,417/Active site: His, Asp, Ser #status predicted

Query Match 35.2%; Score 818.5; DB 1; Length 482;  
 Best Local Similarity 37.0%; Pred. No. 1,9e-52;  
 Matches 165; Conservative 79; Mismatches 153; Indels 49; Gaps 8;

QY 1 ANSFLETHSSLERECIEETCFEEAKEIFONVDITLAFMSKRVNVDQCVLPFAPRCA 60  
 DB 41 ANSFLETHSSLERECIEETCFEEAKEIFONVDITLAFMSKRVNVDQCVLPFAPRCA 94  
 QY 61 SLCCGHTCIDIGSFSCDSCGMEGRFCQREVSFLNCSLDNGGCTHYCLEEVMRCSC 120  
 DB 95 --CQNGECRDLGUGSYCTCTEGFEGNGELFVRKL--CSLDNGBDQCFREHNSVWCSC 151  
 QY 121 APGYKLDLDLQCHAVKFPQGRPKRMKK-----BSHLKRTDQEDQVD----- 167  
 DB 152 AKGYFLDNDEKSCSTAPFPGKTKNGRAKRSVALNTSNSPPELMDPADIYPTESP 211  
 QY 168 -----PRLIDGKTRGDSPMQVLL--DSKKLLACGAVLHPSWLT 208  
 DB 212 SELANLAKTEPENSDDVIRIVGGQEKQGECPQALLFSLEHIDFGCGTILNEFYLT 271  
 QY 209 AAHCDMSKLLVRLGEYDLRERKEWELDIKEVFNHNSKSTNDNDIALHIAQAPAT 268  
 DB 272 AAHCHQAKKFKRVYVDNTEQEDGEMVHEVDMIIKKNKQRPQDTPDIAMRLKPEIT 331  
 QY 269 LSQITVPICLPDSGLARELNQAGQETLVGMGYSREKAKKRNFTVNFPIKVPV 327  
 DB 332 FRENAPACLPQKQWAEATL--MQKTGIVSGFGRTHKQKQK-----VLKMEVPIVD 384  
 QY 328 HNECEWMSWSENNLCAGILGSDRQACBGSGPMVAFPHGTWELVGLVSWGEGCGIL 387  
 DB 385 RNTCLSTSPSTIQNNFCAGYDAQKQEDACGSGGPHYTRKDYFTVGTGVSQCAR 444  
 QY 388 HNYGYTVKRSYLDWTHGHRDKAP 413  
 DB 445 GKGYITKVTAFLLKWDISMARVGP 470

RESULT 6  
 EXBO  
 coagulation factor Xa (EC 3.4.21.6) precursor - bovine  
 N:Alternate names: Stuart factor  
 C:Species: Bos primigenius taurus (cattle)  
 C:Date: 24-Apr-1984 #sequence revision 17-Mar-1987 #text\_change 16-Jul-1999  
 C:Accession: A22867; A14997; A34412; S39414; A00925  
 R:Fung, M.R.; Campbell, R.M.; MacGillivray, T.A.  
 Nucleic Acids Res. 12, 4481-4492, 1984  
 A>Title: Blood coagulation factor X mRNA encodes a single polypeptide chain containing a  
 A:Reference number: A22867; MUID:84247315; PMID:6330671  
 A:Accession: A22867  
 A:Molecule type: mRNA  
 A:Residues: 1-487 <FUN>  
 A:Cross-references: GB:X00673; NID:9192; PIDD:CA25286.1; PID:9193  
 R:Nisfield, D.L.; Erickson, J.H.; Fujikawa, K.; Walsh, K.A.; Neutra, H.; Titani, K.  
 Biochemistry 19, 659-667, 1980  
 A>Title: Amino acid sequence of the light chain of bovine factor X-1 (Stuart factor).  
 A:Reference number: A14997; MUID:80130563; PMID:6766735  
 A:Accession: A14997  
 A:Molecule type: protein  
 A:Residues: 41-102, 'N', 104-180 <ENF>  
 R:McMullen, B.A.; Fujikawa, K.; Kisilev, W.  
 Biochem. Biophys. Res. Commun. 115, 8-14, 1983

QY 179 GDSPMQVLLDSKKKLACGAVLIHPSWVLTAAHQMDESKKLVLGEYDLRMEKWEIDL 238  
 DB 220 GDSPMQVLLDSKKKLACGAVLIHPSWVLTAAHQMDESKKLVLGEYDLRMEKWEIDL 279  
 QY 239 DIKEVFAHNSKSTTDNDIALHLAQPATLSQTIPTCLPDSGLARELNQAGQETLVY 298  
 DB 280 DIKEVFAHNSKSTTDNDIALHLAQPATLSQTIPTCLPDSGLARELNQAGQETLVY 339  
 QY 299 GNGYSSSEKAKRRFTVNFILKIPVPHNECEVMSNMVSCAGILGSDPADCEG 358  
 DB 340 GNGYDSDKXKDDRRRTFLLFIRPLAARDQVANNVSNMNLGAGILGSDPADCEG 395  
 QY 359 DSGGPMVAFHGTFWFLVGLVSWGEGCGHLNHYGYTTSRYLDWIHGHIRDEKAPQKSA 418  
 DB 396 DSGGPMVAFHGTFWFLVGLVSWGEGCGHLNHYGYTTSRYLDWIHGHIRDEKAPQKSA 455  
 QY 419 P 419  
 DB 456 P 456

## RESULT 3

S18994  
 protein C (activated) (EC 3.4.21.69) precursor - rat  
 C1Species: Rattus norvegicus (Norway rat)  
 C1Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 29-Oct-1999  
 C1Accession: S18994; S24312  
 R1Okafuji, T.; Maekawa, K.; Nawa, K.; Marumoto, Y.  
 submitted to the EMBL Data Library, February 1992  
 A1Description: The cDNA cloning and mRNA expression of rat protein C.  
 A1Reference number: S18994  
 A1Accession: S18994  
 A1Status: preliminary  
 A1Molecule type: mRNA  
 A1Residues: 1-461 <OKA>  
 A1Cross-references: EMBL:X64336; NID:G56962; PIDN:CA445617.1; PID:G56963  
 R1Okafuji, T.; Maekawa, K.; Nawa, K.; Marumoto, Y.  
 Biochim. Biophys. Acta 1131, 329-332, 1992  
 A1Title: The cDNA cloning and mRNA expression of rat protein C.  
 A1Reference number: S24312; MUID:92329550; PMID:1627650  
 A1Accession: S24312  
 A1Status: preliminary  
 A1Molecule type: mRNA  
 A1Residues: 1-461 <OKA>  
 A1Cross-references: EMBL:X64336; NID:G56962; PIDN:CA445617.1; PID:G56963  
 C1Superfamily: coagulation factor X; EGF homology; Gla domain homology; trypsin homology  
 C1Keywords: beta-hydroxyaspartic acid; glycoprotein; hydrolase; serine proteinase  
 F11-32/Domain: signal sequence #status predicted <PRO>  
 F127-85/Domain: Gla domain homology <GLA>  
 F133-42/Domain: propeptide #status predicted <PRO>  
 F143-461/Product: protein C #status predicted <PRO>  
 F191-130/Domain: EGF homology <EGF>  
 F139-174/Domain: EGF homology <EG2>  
 F1213-445/Domain: trypsin homology <TRY>  
 F147-48,55,57,60,61,66,67,70,76/Modified site: gamma-carboxyglutamic acid (Glu) #status  
 F112/Modified site: erythro-beta-hydroxyaspartic acid (Asp) #status predicted  
 F121-130,139-150,146-159,161-174,182-200,239-255,373-387,398-426/Disulfide bonds: #stat  
 F125,291,355/Binding site: carbohydrate (asn) (covalent) #status predicted  
 F125,399,402/Active site: His, Asp, Ser #status predicted

Query Match 71.2%; Score 1654.5; DB 1; Length 461;  
 Best Local Similarity 69.4%; Pred. No. 1.1e-113;  
 Matches 290; Conservative 56; Mismatches 69; Indels 3; Gaps 2;

QY 1 ANSFLEHRSLSERCEBICDFEEAKEIFONVDDTLAFMSKXVNDGQCLVPLEHPCA 60  
 DB 42 ANSFLEHRSLSERCEBICDFEEAKEIFONVDDTLAFMSKXVNDGQCLVPLEHPCA 101  
 QY 61 SLCCGHGTCIDIGISFSCDCRSQWEGRFQOREVSEFLNCSLNGGCTHYCLEEVMRRSCG 120  
 DB 102 SPCCGHGTCIDIGISFSCDCRSQWEGRFQOREVSEFLNCSLNGGCTHYCLEEVMRRSCG 161  
 QY 121 APGYKLDGDLLOCHPAVYFPGGRPMKMEKRSKSHLR--DLEHDELPBRRLVNGTLTKQ 178

DB 162 APGYELADHHEHCPTVNEPCGKLMKRRDKRNFKRIDPEDEBELGEPYVNGTLTKQ 221  
 QY 179 GDSPMQVLLDSKKKLACGAVLIHPSWVLTAAHQMDESKKLVLGEYDLRMEKWEIDL 238  
 DB 222 GDSPMQVLLDSKKKLACGAVLIHPSWVLTAAHQMDESKKLVLGEYDLRMEKWEIDL 281  
 QY 239 DIKEVFAHNSKSTTDNDIALHLAQPATLSQTIPTCLPDSGLARELNQAGQETLVY 298  
 DB 282 DIKEVFAHNSKSTTDNDIALHLAQPATLSQTIPTCLPDSGLARELNQAGQETLVY 340  
 QY 299 GNGYSSSEKAKRRFTVNFILKIPVPHNECEVMSNMVSCAGILGSDPADCEG 358  
 DB 341 GNGYDSDKXKDDRRRTFLLFIRPLAARDQVANNVSNMNLGAGILGSDPADCEG 400  
 QY 359 DSGGPMVAFHGTFWFLVGLVSWGEGCGHLNHYGYTTSRYLDWIHGHIRDEKAPQKSA 416  
 DB 401 DSGGPMVAFHGTFWFLVGLVSWGEGCGHLNHYGYTTSRYLDWIHGHIRDEKAPQKSA 458

## RESULT 4

TX0210  
 protein C (activated) (EC 3.4.21.69) precursor - mouse  
 N1Alternate names: vitamin K-dependent serine proteinase  
 C1Species: Mus musculus (house mouse)  
 C1Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 16-Jun-2000  
 C1Accession: TX0210  
 J1Tada, N.; Sato, M.; Tsujimura, A.; Iwase, R.; Hashimoto-Gotoh, T.  
 J1Biochem. 111, 491-495, 1992  
 A1Title: Isolation and characterization of a mouse protein C cDNA.  
 A1Reference number: TX0210; MUID:92316897; PMID:1618729  
 A1Accession: TX0210  
 A1Molecule type: mRNA  
 A1Residues: 1-461 <TAD>  
 A1Cross-references: GB:D10445; NID:G220385; PIDN:BA401235.1; PID:G220386  
 A1Comment: Protein C is the zymogen of the vitamin K-dependent serine proteinase that reg  
 s.  
 C1Superfamily: coagulation factor X; EGF homology; Gla domain homology; trypsin homology  
 C1Keywords: beta-hydroxyaspartic acid; blood coagulation; calcium binding; carboxyglutami  
 F11-33/Domain: signal sequence #status predicted <SIG>  
 F127-85/Domain: Gla domain homology <GLA>  
 F134-41/Domain: propeptide #status predicted <PRO>  
 F142-156,159-461/Product: protein C #status predicted <PRO>  
 F142-156/Domain: light chain #status predicted <PCU>  
 F191-130/Domain: EGF homology <EG1>  
 F139-174/Domain: EGF homology <EG2>  
 F199-461/Domain: heavy chain #status predicted <ACT>  
 F1212-461/Product: vitamin K-dependent serine proteinase #status predicted <VIT>  
 F1212-445/Domain: trypsin homology <TRY>  
 F147-48,55,57,60,61,66,67,70,76/Modified site: gamma-carboxyglutamic acid (Glu) #status I  
 F112/Modified site: erythro-beta-hydroxyaspartic acid (Asp) #status predicted  
 F121-130,139-150,146-159,161-174,182-319,238-254,373-387,398-426/Disulfide bonds: #statu  
 F121,290,355/Binding site: carbohydrate (asn) (covalent) #status predicted  
 F125,399,402/Active site: His, Asp, Ser #status predicted

Query Match 70.6%; Score 1641.5; DB 1; Length 461;  
 Best Local Similarity 69.6%; Pred. No. 1e-112;  
 Matches 291; Conservative 57; Mismatches 67; Indels 3; Gaps 2;

QY 1 ANSFLEHRSLSERCEBICDFEEAKEIFONVDDTLAFMSKXVNDGQCLVPLEHPCA 60  
 DB 42 ANSFLEHRSLSERCEBICDFEEAKEIFONVDDTLAFMSKXVNDGQCLVPLEHPCA 101  
 QY 61 SLCCGHGTCIDIGISFSCDCRSQWEGRFQOREVSEFLNCSLNGGCTHYCLEEVMRRSCG 120  
 DB 102 SPCCGHGTCIDIGISFSCDCRSQWEGRFQOREVSEFLNCSLNGGCTHYCLEEVMRRSCG 161  
 QY 121 APGYKLDGDLLOCHPAVYFPGGRPMKMEKRSKSHLR--DLEHDELPBRRLVNGTLTKQ 178  
 DB 162 APGYELADHHEHCPTVNEPCGKLMKRRDKRNFKRIDPEDEBELGEPYVNGTLTKQ 220

C:Comment: Protein C is synthesized in the liver as a single chain precursor, which is a bin, which cleaves a dodecapeptide from the amino end of the heavy chain; this reaction, C:Genetics:

A:Gene: GDB:PROC

A:Cross-references: GDB:120317; OMIM:176860

A:Map position: 2q13-2q21

A:Introns: 24/1; 79/3; 86/1; 134/1; 179/1; 226/3; 266/1

C:Superfamily: coagulation factor X; EGF homology; Gla domain homology; trypsin homology

C:Keywords: anticoagulant; beta-hydroxyaspartic acid; blood coagulation; calcium binding

F:1-32/Domain: signal sequence #status predicted <SIG>

F:1-27-86/Domain: Gla domain homology <Gla>

F:23-42/Domain: propeptide #status predicted <PRO>

F:43-197/Product: protein C light chain #status predicted <LCH>

F:92-131/Domain: EGF homology <EGF>

F:200-461/Product: protein C heavy chain #status predicted <HCH>

F:200-211/Domain: activation peptide #status experimental <APT>

F:12-445/Domain: trypsin homology <TRY>

F:48-49-56-58-61-62-67-68-71/Modified site: gamma-carboxyglutamic acid (Glu) #status exp

F:59-64-92-105-101-120-122-131-140-151-147-160-162-175-183-319-238-254-373-387-398-426/D

F:106-111/Disulfide bonds: #status predicted

F:110/Binding site: carbonyl-ester (Thr) (covalent) #status absent

F:113/Modified site: erythro-beta-hydroxyaspartic acid (Asp) #status experimental

F:139-290-355/Binding site: carbonyl-ester (Asn) (covalent) #status experimental

F:211-212/Cleavage site: Arg-Leu (thrombin) #status experimental

F:253-299-402/Active site: His, Asp, Ser #status predicted

F:371/Binding site: carbonyl-ester (Asn) (covalent) (partial) #status atypical

Query Match 100.0%; Score 2324; DB 1; Length 461;  
Best Local Similarity 100.0%; Pred. No. 1.1e-162;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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QY 1 ANSFLERHSLSRECEIEICDPEAKEIFONVDDTLAFMSKHYVDGQCLVPLEHPCA 60
DB 43 ANSFLERHSLSRECEIEICDPEAKEIFONVDDTLAFMSKHYVDGQCLVPLEHPCA 102
QY 61 SLCCGHTCIDIGISFSCDCRSQWGRFCQREVSFVNSLNDGCTHYCLEVGMRRSC 120
DB 103 SLCCGHTCIDIGISFSCDCRSQWGRFCQREVSFVNSLNDGCTHYCLEVGMRRSC 162
QY 121 APGYKLGDDLLQCHPAVFPQCPKPKMKRSHKXDPDQDDQDDVRLDGMRRR 180
DB 163 APGYKLGDDLLQCHPAVFPQCPKPKMKRSHKXDPDQDDQDDVRLDGMRRR 222
QY 181 SPQOVVLLDSKKKLAGAVLHPBWTLAHGMDSKKLVRLGEYDLRRKKEWLDLD 240
DB 223 SPQOVVLLDSKKKLAGAVLHPBWTLAHGMDSKKLVRLGEYDLRRKKEWLDLD 282
QY 241 KEVFAHNSKSTTTNDIALHLAQPATLSQTTVTCIPDSGLAEFLNQGQETLVYTK 300
DB 283 KEVFAHNSKSTTTNDIALHLAQPATLSQTTVTCIPDSGLAEFLNQGQETLVYTK 342
QY 301 GHSSRKEKAKRRFPVNLFIKIPVPHNECEWNNVSNMGLGILSGRQDARCGDS 360
DB 343 GHSSRKEKAKRRFPVNLFIKIPVPHNECEWNNVSNMGLGILSGRQDARCGDS 402
QY 361 GGPWVAFHGTWFLVGLVSWGEGGLHNYGYTTSRYLDMHGRIRDKAPQKSNAP 419
DB 403 GGPWVAFHGTWFLVGLVSWGEGGLHNYGYTTSRYLDMHGRIRDKAPQKSNAP 461

```

# RESULT 2

KBBO

protein C (activated) (EC 3.4.21.69) precursor - bovine (fragment)

N:Alternate names: antiprothrombin III; Plasma protein C

C:Species: Bos primigenius taurus (cattle)

C:Date: 30-Nov-1980 #sequence; Revision 17-Mar-1987 #text\_change 16-Jul-1999

C:Accession: A26250; A18385; A00928

R:Long, G.L.; Balagaje, R.M.; MacGillivray, R.T.A.

Proc. Natl. Acad. Sci. U.S.A. 81, 5653-5656, 1984

A:Title: Cloning and sequence of liver cDNA coding for bovine protein C.

A:Reference number: A26250; MID:85014826; PMID:6091100

A:Accession: A26250

A:Molecule type: mRNA  
A:Residues: 1-456 <LON>  
R:Fernlund, P.; Stenflo, J.  
J. Biol. Chem. 257, 12170-12179, 1982  
A:Title: Amino acid sequence of the light chain of bovine protein C.  
A:Reference number: A18385; MID:83007325; PMID:6896896

A:Accession: A18385  
A:Molecule type: protein  
A:Residues: 40-194 <FER>  
A:Note: 82-Lys was also found  
R:Drakenberg, T.; Roepstorff, P.; Stenflo, J.  
Proc. Natl. Acad. Sci. U.S.A. 80, 1802-1806, 1983

A:Title: Beta-hydroxyaspartic acid in vitamin K-dependent protein C.  
A:Reference number: A19316; MID:83169769; PMID:6572939  
A:Content: annotation; revision to residue 110  
R:Stenflo, J.; Fernlund, P.  
J. Biol. Chem. 257, 12180-12190, 1982

A:Title: Amino acid sequence of the heavy chain of bovine protein C.  
A:Reference number: A18386; MID:83007326; PMID:6896897  
A:Accession: A18386

A:Molecule type: protein  
A:Residues: 197-454, 'PV' <STR>  
R:Bomon, N.L.; DeBault, L.E.; Bomon, C.T.  
J. Biol. Chem. 258, 5548-5553, 1983

A:Title: Proteolytic formation and properties of gamma-carboxyglutamic acid-domainless p  
A:Reference number: A37541; MID:83213513; PMID:6304092  
A:Content: annotation; activation; calcium binding  
R:Johnson, A.E.; Bomon, N.L.; Lane, T.M.; Bomon, C.T.  
J. Biol. Chem. 258, 5554-5560, 1983

A:Title: Structural changes required for activation of protein C are induced by Ca2+ bin  
A:Reference number: A37542; MID:83213514; PMID:6406503  
A:Content: annotation; activation; calcium binding  
C:Comment: Protein C is the zymogen of the vitamin K-dependent serine proteinase that reg

S:  
C:Comment: Protein C is synthesized in the liver as a single chain precursor, which is C  
bin, which cleaves a tetradecapeptide from the amino end of the heavy chain; this reacti  
C:Comment: Calcium binds to the gamma-carboxyglutamic acid (Gla) residues and, with stro  
cognition of the thrombin-thrombomodulin complex.  
C:Superfamily: The gamma-carboxyglutamic acid residues arise by a posttranslational, vitamin  
C:Keywords: anticoagulant; beta-hydroxyaspartic acid; blood coagulation; calcium binding  
F:1-29/Domain: signal sequence (fragment) #status predicted <SIG>  
F:24-83/Domain: Gla domain homology <Gla>  
F:30-39/Domain: propeptide #status predicted <PRO>  
F:40-194/Product: protein C light chain #status experimental <LCH>  
F:98-128/Domain: EGF homology <EGF>  
F:137-172/Domain: EGF homology <EGF>  
F:197-456/Product: protein C heavy chain #status experimental <APT>  
F:211-210/Domain: activation peptide #status experimental <APT>  
F:221-440/Domain: trypsin homology <TRY>  
F:45/46-53-55-58-59-62-64-65-68-74/Modified site: gamma-carboxyglutamic acid (Glu) #stat  
F:110/Modified site: erythro-beta-hydroxyaspartic acid (Asp) #status experimental  
F:139-289-350/Binding site: carbonyl-ester (Asn) (covalent) #status predicted  
F:252-289-397/Active site: His, Asp, Ser #status predicted  
F:366/Binding site: carbonyl-ester (Asn) (covalent) #status predicted

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QY 1 ANSFLERHSLSRECEIEICDPEAKEIFONVDDTLAFMSKHYVDGQCLVPLEHPCA 60
DB 40 ANSFLERHSLSRECEIEICDPEAKEIFONVDDTLAFMSKHYVDGQCLVPLEHPCA 99
QY 61 SLCCGHTCIDIGISFSCDCRSQWGRFCQREVSFVNSLNDGCTHYCLEVGMRRSC 120
DB 100 LPCCRGKCTIDIGISFSCDCRSQWGRFCQREVSFVNSLNDGCTHYCLEVGMRRSC 159
QY 121 APGYKLGDDLLQCHPAVFPQCPKPKMKRSHKXDPDQDDQDDVRLDGMRRR 178
DB 160 APGYKLGDDLLQCHPAVFPQCPKPKMKRSHKXDPDQDDQDDVRLDGMRRR 219

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Query Match 71.8%; Score 1668; DB 1; Length 456;  
Best Local Similarity 71.3%; Pred. No. 1.1e-114;  
Matches 300; Conservative 39; Mismatches 76; Indels 6; Gaps 2;

GenCore version 5.1.6  
Copyright (c) 1993 - 2004 CompuGen Ltd.

# OM protein - protein search, using sw model

Run on: June 2, 2004, 16:53:31 / Search time 20 Seconds  
(without alignments)  
2015.212 Million cell updates/sec

Title: US-09-997-623-4  
Perfect score: 2324  
Sequence: 1 ANSFLEHRLHRSLSRECEIE.....LDWIGHIRDPKAPKSWAP 419

Scoring table: BLOSUM62  
Gapop 10.0, Gapext 0.5

Searched: 283366 seqs, 96191526 residues

Total number of hits satisfying chosen parameters: 283366

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database :  
1: pir1:\*  
2: pir2:\*  
3: pir3:\*  
4: pir4:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	2324	100.0	461	1 KXHU	protein C (activat
2	1668	71.8	461	1 KXBO	protein C (activat
3	1634.5	71.2	461	1 S18994	protein C (activat
4	1641.5	70.6	461	1 UX0210	protein C (activat
5	818.5	35.2	482	1 EXRT	coagulation factor
6	809.5	34.8	492	1 EXHU	coagulation factor
7	809	34.8	488	1 EXHU	coagulation factor
8	801.5	34.5	475	1 EXCH	coagulation factor
9	783	33.7	466	1 KFHU7	coagulation factor
10	779.5	33.5	407	1 KFB07	coagulation factor
11	769.5	33.1	443	2 146932	coagulation factor
12	763	32.8	452	1 A30351	coagulation factor
13	736	31.7	461	1 KFHU	coagulation factor
14	726	31.2	459	2 J00419	coagulation factor
15	714.5	30.7	416	1 KFB0	thrombin (EC 3.4.2
16	562.5	24.2	622	1 TBHO	thrombin (EC 3.4.2
17	538.5	23.2	625	1 TBHO	thrombin (EC 3.4.2
18	533	22.9	618	2 A35827	thrombin (EC 3.4.2
19	525.5	22.6	617	2 S10511	heparocyte growth
20	473.5	20.4	655	1 A46688	plasma protein 2 p
21	468	20.1	422	1 KXHUZ	plasma protein 2 p
22	448	19.3	396	1 KXBOZ	factor IX - pig (f
23	427	18.4	271	2 146580	plasma kallikrein
24	426	18.3	638	1 KOMSPL	plasma kallikrein
25	424.5	18.3	638	1 KOHUP	Ra-reactive factor
26	420.5	18.1	699	1 154763	factor IX - rabbit
27	420	18.1	275	2 146712	coagulation factor
28	419	18.0	625	1 KFHU1	membrane-bound arg
29	418.5	18.0	855	2 UC7731	

30	417	17.9	285	2 148144	coagulation factor
31	414	17.8	638	1 KORTPL	plasma kallikrein
32	412	17.7	812	1 PLMS	plasma (EC 3.4.21
33	410.5	17.7	275	2 C35863	trypsin (EC 3.4.2
34	410	17.6	560	1 J04795	plasma hyaluronan-
35	410	17.6	810	1 PLHU	plasmin (EC 3.4.21
36	409.5	17.6	282	2 184621	coagulation factor
37	404.5	17.4	275	2 A35863	trypsin (EC 3.4.2
38	403.5	17.4	275	2 B35863	trypsin (EC 3.4.2
39	403	17.3	274	2 J04171	trypsin (EC 3.4.2
40	403	17.3	583	2 A29154	complement factor
41	402	17.3	246	2 B25528	trypsin (EC 3.4.21
42	400.5	17.2	246	2 J04171	trypsin (EC 3.4.21
43	400	17.2	239	2 G42696	thrombin (EC 3.4.2
44	400	17.2	810	2 B30848	plasmin (EC 3.4.21
45	399.5	17.2	231	1 TRPGR	trypsin (EC 3.4.21

## ALIGNMENTS

### RESULT 1

KXHU

Protein C (activated) (EC 3.4.21.69) precursor - human  
N/Alternate names: autoprothrombin IIA; plasma protein C

C/Species: Homo sapiens (man)

C/Date: 17-Mar-1987 #sequence revision 17-Mar-1987 #text change 16-Jul-1999

C/Accession: A22331; A25426; A21781; A23789; A00927

R/Poster: D.C.; Yoshitake, S.; Davie, E.W.

Proc. Natl. Acad. Sci. U.S.A. 82, 4673-4677, 1985

A/Title: The nucleotide sequence of the gene for human protein C.

A/Reference number: A22331; MUID:85270390; PMID:2991887

A/Accession: A22331

A/Molecule type: DNA

A/Residues: 1-461 <POS1>

A/Cross-references: GB:M1228; NID:g190333; PIDN:AAA60166.1; PID:g190334

R/Plutsky, J.; Hoskins, J.A.; Long, G.L.; Crabtree, G.R.

Proc. Natl. Acad. Sci. U.S.A. 83, 546-550, 1986

A/Title: Evolution and organization of the human protein C gene.

A/Reference number: A25426; MUID:86120978; PMID:3511471

A/Accession: A25426

A/Molecule type: DNA

A/Residues: 1-445, 'L', '446-461 <PU>

A/Cross-references: GB:M12712; NID:g190330; PIDN:AAA60165.1; PID:g190332

R/Poster, D.; Davie, E.W.

Proc. Natl. Acad. Sci. U.S.A. 81, 4766-4770, 1984

A/Title: Characterization of a cDNA coding for human protein C.

A/Reference number: A21781; MUID:84272714; PMID:6589623

A/Accession: A21781

A/Molecule type: mRNA

A/Residues: 'Q', 107-461 <POS2>

A/Cross-references: GB:K02059; NID:g190322; PIDN:AAA60164.1; PID:g190323

R/Beckmann, R.J.; Schmidt, R.J.; Santerre, R.F.; Plutsky, J.; Crabtree, G.R.; Long, G.L.

Nucleic Acids Res. 13, 5233-5247, 1985

A/Title: The structure and evolution of a 461 amino acid human protein C precursor and its

A/Reference number: A23789; MUID:86269639; PMID:2991889

A/Accession: A23789

A/Molecule type: mRNA

A/Residues: 1-461 <BC>

A/Cross-references: GB:X02750; NID:g35689; PIDN:CAA26528.1; PID:g763120

R/Maleich, U.P.; Broze Jr., G.J.

U. Biol. Chem. 265, 11397-11404, 1990

A/Title: Beta protein C is not glycosylated at asparagine 329. The rate of translation me

A/Reference number: A44605; MUID:90291094; PMID:1694179

A/Contents: annotation; carbohydrate binding sites; activation peptide

A/Note: the alpha form of protein C is glycosylated at Asn-329, and the beta form is not

R/Harris, R.J.; Ling, V.T.; Spelman, M.W.

U. Biol. Chem. 267, 5102-5107, 1992

A/Title: O-linked fucose is present in the first epidermal growth factor domain of factor

A/Reference number: A44606; MUID:92184750; PMID:1544894

A/Contents: annotation; beta-hydroxyaspartic acid

A/Comment: protein C is the zymogen of the vitamin K-dependent serine proteinase that in

activation of factor Va is strongly enhanced by complexing with protein S. Protein C also fe

; CURRENT FILING DATE: 2002-07-22  
 ; PRIOR APPLICATION NUMBER: 60/181948  
 ; PRIOR FILING DATE: 2002-02-11  
 ; PRIOR APPLICATION NUMBER: 60/189199  
 ; PRIOR FILING DATE: 2000-03-14  
 ; NUMBER OF SEQ ID NOS: 12  
 ; SOFTWARE: PatentIn version 3.1  
 ; SEQ ID NO 3  
 ; LENGTH: 419  
 ; TYPE: PRT  
 ; ORGANISM: Homo sapiens  
 ; US-10-182-263-3

Query Match 98.5%; Score 2290; DB 14; Length 419;  
 Best Local Similarity 98.6%; Pred. No. 3e-187;  
 Matches 413; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

QY	1	ANSFLELRHSLSRECEIEICDPEAKEIFQNVDDTLAFWSKRVGDQCLVPLEHPCA	60
DB	1	ANSFLELRHSLSRECEIEICDPEAKEIFEDVDDTLAFWSKRVGDQCLVPLEHPCA	60
QY	61	SLCCGHTCTDGTGSSCDSCGWRGRCOREVSFLNCSLNGGCTHYCLEEVGMRRCSC	120
DB	61	SLCCGHTCTDGTGSSCDSCGWRGRCOREVSFLNCSLNGGCTHYCLEEVGMRRCSC	120
QY	121	APGYLGDPLLQCHPAVKFPCGRPMKMEKKRSHLKRDTEDQEDQVDFRLIDKMTTRGD	180
DB	121	APGYLGDPLLQCHPAVKFPCGRPMKMEKKRSHLKRDTEDQEDQVDFRLIDKMTTRGD	180
QY	181	SPWQVVLDSKKKLAGAVLTHPSVTLTAHCHDESKLLVRLGEYDLRREKWEIDDI	240
DB	181	SPWQVVLDSKKKLAGAVLTHPSVTLTAHCHDESKLLVRLGEYDLRREKWEIDDI	240
QY	241	KEVFPHPYKSTTNDIALHLAOPATLSOTIVPICLPDSGLARELNOAGQETLVTW	300
DB	241	KEVFPHPYKSTTNDIALHLAOPATLSOTIVPICLPDSGLARELNOAGQETLVTW	300
QY	301	GYHSSREKAKRNTFVLFIKIPVPHNECSEVMSNMVSENMLCAGILDRQDACEGDS	360
DB	301	GYHSSREKAKRNTFVLFIKIPVPHNECSEVMSNMVSENMLCAGILDRQDACEGDS	360
QY	361	GGPMYASTHGTWFLVGLVSKGCGGLHNTGVTTKVSRYLWDYHGHTRDKAPQKSNAP	419
DB	361	GGPMYASTHGTWFLVGLVSKGCGGLHNTGVTTKVSRYLWDYHGHTRDKAPQKSNAP	419

Search completed: June 2, 2004, 16:59:14  
 Job time : 50 secs



QY 61 SLCCGHTCIDIGSFSCDCRSWGEGRCOREVSLFNCSLDNGGCTHYCLEEVGMRCSG 120  
DB 61 SLCCGHTCIDIGSFSCDCRSWGEGRCOREVSLFNCSLDNGGCTHYCLEEVGMRCSG 120  
QY 121 APGYKLDGDLLOCHPAVPCGPRPKMEKRSKSLKRDTEDEQDVDPRLIDGKMTRRGD 180  
DB 121 APGYKLDGDLLOCHPAVPCGPRPKMEKRSKSLKRDTEDEQDVDPRLIDGKMTRRGD 180  
QY 181 SPQVVLDSKSKKLAAGAVLHPSWVLTAAHCHMDESKKLVRLGEYDLRRMEKWEIDLDI 240  
DB 181 SPQVVLDSKSKKLAAGAVLHPSWVLTAAHCHMDESKKLVRLGEYDLRRMEKWEIDLDI 240  
QY 241 KEVFPVHNSKSTTNDIALHLAOPATLSQTIYVPCLPDSGLARELNQAGQETLVYTGW 300  
DB 241 KEVFPVHNSKSTTNDIALHLAOPATLSQTIYVPCLPDSGLARELNQAGQETLVYTGW 300  
QY 301 GYHSREKAKNRNFTVFNFIKIPVPHNECSEVMSNMVSENNLCAGILGRDACEGDS 360  
DB 301 GYHSREKAKNRNFTVFNFIKIPVPHNECSEVMSNMVSENNLCAGILGRDACEGDS 360  
QY 361 GGPVVASFHGTWFLVGLVSWGEGCLHNYGYTKVSRYLDMIGHIRDXEAPQKSNAP 419  
DB 361 GGPVVASFHGTWFLVGLVSWGEGCLHNYGYTKVSRYLDMIGHIRDXEAPQKSNAP 419

## RESULT 13

US-10-182-263-5  
; Sequence 5, Application US/10182263  
; Publication No. US20030022354A1  
; GENERAL INFORMATION:  
; APPLICANT: Gerlitz, Bruce E  
; APPLICANT: Jones, Bryan E  
; APPLICANT: Grimmel, Brian W  
; TITLE OF INVENTION: PROTEIN C DERIVATIVES  
; FILE REFERENCE: X-13611  
; CURRENT APPLICATION NUMBER: US/10/182,263  
; CURRENT FILING DATE: 2002-07-22  
; PRIOR APPLICATION NUMBER: 60/181948  
; PRIOR FILING DATE: 2002-02-11  
; PRIOR APPLICATION NUMBER: 60/189199  
; PRIOR FILING DATE: 2000-03-14  
; NUMBER OF SEQ ID NOS: 12  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 5  
; LENGTH: 419  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-182-263-5

Query Match 98.8%; Score 2296; DB 14; Length 419;  
Best Local Similarity 98.8%; Pred. No. 9,3e-188;  
Matches 414; Conservative 2; Mismatches 3; Indels 0; Gaps 0;  
QY 1 ANSFLEIRHSSLERCEIEICDFEAKELFQNVDDTLAFMSKXVGDQCLVPLEHPCA 60  
DB 1 ANSFLEIRHSSLERCEIEICDFEAKELFQNVDDTLAFMSKXVGDQCLVPLEHPCA 60  
QY 61 SLCCGHTCIDIGSFSCDCRSWGEGRCOREVSLFNCSLDNGGCTHYCLEEVGMRCSG 120  
DB 61 SLCCGHTCIDIGSFSCDCRSWGEGRCOREVSLFNCSLDNGGCTHYCLEEVGMRCSG 120  
QY 121 APGYKLDGDLLOCHPAVPCGPRPKMEKRSKSLKRDTEDEQDVDPRLIDGKMTRRGD 180  
DB 121 APGYKLDGDLLOCHPAVPCGPRPKMEKRSKSLKRDTEDEQDVDPRLIDGKMTRRGD 180  
QY 181 SPQVVLDSKSKKLAAGAVLHPSWVLTAAHCHMDESKKLVRLGEYDLRRMEKWEIDLDI 240  
DB 181 SPQVVLDSKSKKLAAGAVLHPSWVLTAAHCHMDESKKLVRLGEYDLRRMEKWEIDLDI 240  
QY 241 KEVFPVHNSKSTTNDIALHLAOPATLSQTIYVPCLPDSGLARELNQAGQETLVYTGW 300  
DB 241 KEVFPVHNSKSTTNDIALHLAOPATLSQTIYVPCLPDSGLARELNQAGQETLVYTGW 300

QY 301 GYHSREKAKNRNFTVFNFIKIPVPHNECSEVMSNMVSENNLCAGILGRDACEGDS 360  
DB 301 GYHSREKAKNRNFTVFNFIKIPVPHNECSEVMSNMVSENNLCAGILGRDACEGDS 360  
QY 361 GGPVVASFHGTWFLVGLVSWGEGCLHNYGYTKVSRYLDMIGHIRDXEAPQKSNAP 419  
DB 361 GGPVVASFHGTWFLVGLVSWGEGCLHNYGYTKVSRYLDMIGHIRDXEAPQKSNAP 419

## RESULT 14

US-10-168-407-6  
; Sequence 6, Application US/10168407  
; Publication No. US20030207435A1  
; GENERAL INFORMATION:  
; APPLICANT: Gerlitz, Bruce E  
; APPLICANT: Jones, Bryan E  
; APPLICANT: Grimmel, Brian W  
; TITLE OF INVENTION: PROTEIN C DERIVATIVES  
; FILE REFERENCE: X-13610  
; CURRENT APPLICATION NUMBER: US/10/168,407  
; CURRENT FILING DATE: 2002-11-04  
; NUMBER OF SEQ ID NOS: 12  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 6  
; LENGTH: 419  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-168-407-6

Query Match 98.7%; Score 2294; DB 15; Length 419;  
Best Local Similarity 98.6%; Pred. No. 1.4e-187;  
Matches 413; Conservative 3; Mismatches 3; Indels 0; Gaps 0;  
QY 1 ANSFLEIRHSSLERCEIEICDFEAKELFQNVDDTLAFMSKXVGDQCLVPLEHPCA 60  
DB 1 ANSFLEIRHSSLERCEIEICDFEAKELFQNVDDTLAFMSKXVGDQCLVPLEHPCA 60  
QY 61 SLCCGHTCIDIGSFSCDCRSWGEGRCOREVSLFNCSLDNGGCTHYCLEEVGMRCSG 120  
DB 61 SLCCGHTCIDIGSFSCDCRSWGEGRCOREVSLFNCSLDNGGCTHYCLEEVGMRCSG 120  
QY 121 APGYKLDGDLLOCHPAVPCGPRPKMEKRSKSLKRDTEDEQDVDPRLIDGKMTRRGD 180  
DB 121 APGYKLDGDLLOCHPAVPCGPRPKMEKRSKSLKRDTEDEQDVDPRLIDGKMTRRGD 180  
QY 181 SPQVVLDSKSKKLAAGAVLHPSWVLTAAHCHMDESKKLVRLGEYDLRRMEKWEIDLDI 240  
DB 181 SPQVVLDSKSKKLAAGAVLHPSWVLTAAHCHMDESKKLVRLGEYDLRRMEKWEIDLDI 240  
QY 241 KEVFPVHNSKSTTNDIALHLAOPATLSQTIYVPCLPDSGLARELNQAGQETLVYTGW 300  
DB 241 KEVFPVHNSKSTTNDIALHLAOPATLSQTIYVPCLPDSGLARELNQAGQETLVYTGW 300  
QY 301 GYHSREKAKNRNFTVFNFIKIPVPHNECSEVMSNMVSENNLCAGILGRDACEGDS 360  
DB 301 GYHSREKAKNRNFTVFNFIKIPVPHNECSEVMSNMVSENNLCAGILGRDACEGDS 360  
QY 361 GGPVVASFHGTWFLVGLVSWGEGCLHNYGYTKVSRYLDMIGHIRDXEAPQKSNAP 419  
DB 361 GGPVVASFHGTWFLVGLVSWGEGCLHNYGYTKVSRYLDMIGHIRDXEAPQKSNAP 419

## RESULT 15

US-10-182-263-3  
; Sequence 3, Application US/10182263  
; Publication No. US20030022354A1  
; GENERAL INFORMATION:  
; APPLICANT: Gerlitz, Bruce E  
; APPLICANT: Jones, Bryan E  
; APPLICANT: Grimmel, Brian W  
; TITLE OF INVENTION: PROTEIN C DERIVATIVES  
; FILE REFERENCE: X-13611  
; CURRENT APPLICATION NUMBER: US/10/182,263

QY 241 KEVFNHNSKSTTNDIALHLAOPATLSQTIIVICLPSGLARELNQAGETLVYGM 300  
DB 241 KEVFNHNSKSTTNDIALHLAOPATLSQTIIVICLPSGLARELNQAGETLVYGM 300  
QY 301 GHSSREKAKNRRTFVNFITIKIVVPHNECESEVSNVSNMLCAGILGDRQACGDS 360  
DB 301 GHSSREKAKNRRTFVNFITIKIVVPHNECESEVSNVSNMLCAGILGDRQACGDS 360  
QY 361 GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGVYTKSRYLDMIGHIRDKXAPQSNAP 419  
DB 361 GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGVYTKSRYLDMIGHIRDKXAPQSNAP 419

## RESULT 10

US-10-168-407-4  
; Sequence 4, Application US/10168407  
; Publication No. US20030207435A1  
; GENERAL INFORMATION:  
; APPLICANT: Gerlitz, Bruce E  
; APPLICANT: Jones, Bryan E  
; TITLE OF INVENTION: PROTEIN C DERIVATIVES  
; FILE REFERENCE: X-13610  
; CURRENT APPLICATION NUMBER: US/10/168,407  
; CURRENT FILING DATE: 2002-11-04  
; NUMBER OF SEQ ID NOS: 12  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 4  
; LENGTH: 419  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-168-407-4

Query Match 99.1%; Score 2302; DB 15; Length 419;

Best Local Similarity 98.8%; Pred. No. 2, 9e-188;  
Matches 414; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

QY 1 ANSFLELRHSSLERECIEICDFEAKEIFQNVDDTLAFWSKHVDGQCLVPLEHPCA 60  
DB 1 ANSFLELRHSSLERECIEICDFEAKEIFEDVDDTLAFWSKHVDGQCLVPLEHPCA 60  
QY 61 SLCCGHTCIDIGISFSCDCRSWGEGRCQREVSFLNCSLDNGGCTHYCLEEYGMRRSC 120  
DB 61 SLCCGHTCIDIGISFSCDCRSWGEGRCQREVSFLNCSLDNGGCTHYCLEEYGMRRSC 120  
QY 121 APGYKLGDDLQCHPAVPCGRPWKMEKKRSHLKDTEDEQDVDRLLDGKMTRRGD 180  
DB 121 APGYKLGDDLQCHPAVPCGRPWKMEKKRSHLKDTEDEQDVDRLLDGKMTRRGD 180  
QY 181 SPQOVVLLDSKKKLACGAVLIHPSVWLTAAHCDMSKKLLVRLGEYDLRRMEKMLDDI 240  
DB 181 SPQOVVLLDSKKKLACGAVLIHPSVWLTAAHCDMSKKLLVRLGEYDLRRMEKMLDDI 240  
QY 241 KEVFNHNSKSTTNDIALHLAOPATLSQTIIVICLPSGLARELNQAGETLVYGM 300  
DB 241 KEVFNHNSKSTTNDIALHLAOPATLSQTIIVICLPSGLARELNQAGETLVYGM 300  
QY 301 GHSSREKAKNRRTFVNFITIKIVVPHNECESEVSNVSNMLCAGILGDRQACGDS 360  
DB 301 GHSSREKAKNRRTFVNFITIKIVVPHNECESEVSNVSNMLCAGILGDRQACGDS 360  
QY 361 GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGVYTKSRYLDMIGHIRDKXAPQSNAP 419  
DB 361 GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGVYTKSRYLDMIGHIRDKXAPQSNAP 419

## RESULT 11

US-10-670-628-2  
; Sequence 2, Application US/10670628  
; Publication No. US20040038288A1  
; GENERAL INFORMATION:  
; APPLICANT: Huang, Lihua  
; APPLICANT: Riggall, Ralph M  
; TITLE OF INVENTION: HUMAN PROTEIN C POLYPEPTIDE

; FILE REFERENCE: X-12279  
; CURRENT APPLICATION NUMBER: US/10/670,628  
; CURRENT FILING DATE: 2003-09-25  
; NUMBER OF SEQ ID NOS: 2  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 2  
; LENGTH: 415  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: recombinant human protein c  
; OTHER INFORMATION: truncated at C-terminus  
US-10-670-628-2

Query Match 98.9%; Score 2298; DB 12; Length 415;

Best Local Similarity 100.0%; Pred. No. 6, 2e-188;  
Matches 415; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLELRHSSLERECIEICDFEAKEIFQNVDDTLAFWSKHVDGQCLVPLEHPCA 60  
DB 1 ANSFLELRHSSLERECIEICDFEAKEIFEDVDDTLAFWSKHVDGQCLVPLEHPCA 60  
QY 61 SLCCGHTCIDIGISFSCDCRSWGEGRCQREVSFLNCSLDNGGCTHYCLEEYGMRRSC 120  
DB 61 SLCCGHTCIDIGISFSCDCRSWGEGRCQREVSFLNCSLDNGGCTHYCLEEYGMRRSC 120  
QY 121 APGYKLGDDLQCHPAVPCGRPWKMEKKRSHLKDTEDEQDVDRLLDGKMTRRGD 180  
DB 121 APGYKLGDDLQCHPAVPCGRPWKMEKKRSHLKDTEDEQDVDRLLDGKMTRRGD 180  
QY 181 SPQOVVLLDSKKKLACGAVLIHPSVWLTAAHCDMSKKLLVRLGEYDLRRMEKMLDDI 240  
DB 181 SPQOVVLLDSKKKLACGAVLIHPSVWLTAAHCDMSKKLLVRLGEYDLRRMEKMLDDI 240  
QY 241 KEVFNHNSKSTTNDIALHLAOPATLSQTIIVICLPSGLARELNQAGETLVYGM 300  
DB 241 KEVFNHNSKSTTNDIALHLAOPATLSQTIIVICLPSGLARELNQAGETLVYGM 300  
QY 301 GHSSREKAKNRRTFVNFITIKIVVPHNECESEVSNVSNMLCAGILGDRQACGDS 360  
DB 301 GHSSREKAKNRRTFVNFITIKIVVPHNECESEVSNVSNMLCAGILGDRQACGDS 360  
QY 361 GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGVYTKSRYLDMIGHIRDKXAPQ 415  
DB 361 GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGVYTKSRYLDMIGHIRDKXAPQ 415

## RESULT 12

US-10-168-407-5  
; Sequence 5, Application US/10168407  
; Publication No. US20030207435A1  
; GENERAL INFORMATION:  
; APPLICANT: Gerlitz, Bruce E  
; APPLICANT: Jones, Bryan E  
; TITLE OF INVENTION: PROTEIN C DERIVATIVES  
; FILE REFERENCE: X-13610  
; CURRENT APPLICATION NUMBER: US/10/168,407  
; CURRENT FILING DATE: 2002-11-04  
; NUMBER OF SEQ ID NOS: 12  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 5  
; LENGTH: 419  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-168-407-5

Query Match 98.9%; Score 2298; DB 15; Length 419;

Best Local Similarity 98.8%; Pred. No. 6, 3e-188;  
Matches 414; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

QY 1 ANSFLELRHSSLERECIEICDFEAKEIFQNVDDTLAFWSKHVDGQCLVPLEHPCA 60  
DB 1 ANSFLELRHSSLERECIEICDFEAKEIFEDVDDTLAFWSKHVDGQCLVPLEHPCA 60

; Sequence 2, Application US/10182263  
; Publication No. US20030022354A1  
; GENERAL INFORMATION:  
; APPLICANT: Gerlitz, Bruce E  
; APPLICANT: Jones, Bryan E  
; APPLICANT: Grinnell, Brian W  
; TITLE OF INVENTION: PROTEIN C DERIVATIVES  
; FILE REFERENCE: X-13611  
; CURRENT APPLICATION NUMBER: US/10/182,263  
; CURRENT FILING DATE: 2002-07-22  
; PRIOR APPLICATION NUMBER: 60/181948  
; PRIOR FILING DATE: 2002-02-11  
; PRIOR APPLICATION NUMBER: 60/189199  
; PRIOR FILING DATE: 2000-03-14  
; NUMBER OF SEQ ID NOS: 12  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 2  
; LENGTH: 461  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-182-263-2

Query Match 100.0%; Score 2324; DB 14; Length 461;  
Best Local Similarity 100.0%; Pred. No. 4.2e-190;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLELRHSSLEBCEIEICDFEAKEIFQNVDDTLAFMSKHYDQOCVLPLEHPCA 60  
DB 43 ANSFLELRHSSLEBCEIEICDFEAKEIFQNVDDTLAFMSKHYDQOCVLPLEHPCA 102  
QY 61 SLCCGHTCIDIGSFCDCRSQWEGRFGQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 120  
DB 103 SLCCGHTCIDIGSFCDCRSQWEGRFGQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 162  
QY 121 APGYKGDLLQCHPAVFPQGRPMKMEKRSKSLKRDTEQDQVDPRLIDGKMTRRGD 180  
DB 163 APGYKGDLLQCHPAVFPQGRPMKMEKRSKSLKRDTEQDQVDPRLIDGKMTRRGD 222  
QY 181 SPWQVVLDSKKKLAAGAVLIHPSWVLTAAHOMDESCKLVRLGGEYDLRRWEKWEIDLDI 240  
DB 223 SPWQVVLDSKKKLAAGAVLIHPSWVLTAAHOMDESCKLVRLGGEYDLRRWEKWEIDLDI 282  
QY 241 KEVFNHNSKSTTNDIALHLAOPATLSQTIYVICLPDGLARELNQAGQETLVYTW 300  
DB 283 KEVFNHNSKSTTNDIALHLAOPATLSQTIYVICLPDGLARELNQAGQETLVYTW 342  
QY 301 GYHSSREKAKNRFTFVNFKIPVVPNHCESEVSMNSVSENNLCAGILIGRQDACEGDS 360  
DB 343 GYHSSREKAKNRFTFVNFKIPVVPNHCESEVSMNSVSENNLCAGILIGRQDACEGDS 402  
QY 361 GSPWVASFHGTWFLVGLVSWEGGGLLHNYGYTVKSRVYDWTIHGIRDKKAPQKSWAP 419  
DB 403 GSPWVASFHGTWFLVGLVSWEGGGLLHNYGYTVKSRVYDWTIHGIRDKKAPQKSWAP 461

## RESULT 8

US-10-168-407-2  
; Sequence 2, Application US/10168407  
; Publication No. US20030207435A1  
; GENERAL INFORMATION:  
; APPLICANT: Gerlitz, Bruce E  
; APPLICANT: Jones, Bryan E  
; APPLICANT: Grinnell, Brian W  
; TITLE OF INVENTION: PROTEIN C DERIVATIVES  
; FILE REFERENCE: X-13610  
; CURRENT APPLICATION NUMBER: US/10/168,407  
; CURRENT FILING DATE: 2002-11-04  
; NUMBER OF SEQ ID NOS: 12  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 2  
; LENGTH: 461  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-168-407-2

Query Match 100.0%; Score 2324; DB 15; Length 461;  
Best Local Similarity 100.0%; Pred. No. 4.2e-190;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLELRHSSLEBCEIEICDFEAKEIFQNVDDTLAFMSKHYDQOCVLPLEHPCA 60  
DB 43 ANSFLELRHSSLEBCEIEICDFEAKEIFQNVDDTLAFMSKHYDQOCVLPLEHPCA 102  
QY 61 SLCCGHTCIDIGSFCDCRSQWEGRFGQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 120  
DB 103 SLCCGHTCIDIGSFCDCRSQWEGRFGQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 162  
QY 121 APGYKGDLLQCHPAVFPQGRPMKMEKRSKSLKRDTEQDQVDPRLIDGKMTRRGD 180  
DB 163 APGYKGDLLQCHPAVFPQGRPMKMEKRSKSLKRDTEQDQVDPRLIDGKMTRRGD 222  
QY 181 SPWQVVLDSKKKLAAGAVLIHPSWVLTAAHOMDESCKLVRLGGEYDLRRWEKWEIDLDI 240  
DB 223 SPWQVVLDSKKKLAAGAVLIHPSWVLTAAHOMDESCKLVRLGGEYDLRRWEKWEIDLDI 282  
QY 241 KEVFNHNSKSTTNDIALHLAOPATLSQTIYVICLPDGLARELNQAGQETLVYTW 300  
DB 283 KEVFNHNSKSTTNDIALHLAOPATLSQTIYVICLPDGLARELNQAGQETLVYTW 342  
QY 301 GYHSSREKAKNRFTFVNFKIPVVPNHCESEVSMNSVSENNLCAGILIGRQDACEGDS 360  
DB 343 GYHSSREKAKNRFTFVNFKIPVVPNHCESEVSMNSVSENNLCAGILIGRQDACEGDS 402  
QY 361 GSPWVASFHGTWFLVGLVSWEGGGLLHNYGYTVKSRVYDWTIHGIRDKKAPQKSWAP 419  
DB 403 GSPWVASFHGTWFLVGLVSWEGGGLLHNYGYTVKSRVYDWTIHGIRDKKAPQKSWAP 461

## RESULT 9

US-10-168-407-3  
; Sequence 3, Application US/10168407  
; Publication No. US20030207435A1  
; GENERAL INFORMATION:  
; APPLICANT: Gerlitz, Bruce E  
; APPLICANT: Jones, Bryan E  
; APPLICANT: Grinnell, Brian W  
; TITLE OF INVENTION: PROTEIN C DERIVATIVES  
; FILE REFERENCE: X-13610  
; CURRENT APPLICATION NUMBER: US/10/168,407  
; CURRENT FILING DATE: 2002-11-04  
; NUMBER OF SEQ ID NOS: 12  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 3  
; LENGTH: 419  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-168-407-3

Query Match 99.2%; Score 2306; DB 15; Length 419;  
Best Local Similarity 99.0%; Pred. No. 1.3e-188;  
Matches 415; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 ANSFLELRHSSLEBCEIEICDFEAKEIFQNVDDTLAFMSKHYDQOCVLPLEHPCA 60  
DB 1 ANSFLELRHSSLEBCEIEICDFEAKEIFQNVDDTLAFMSKHYDQOCVLPLEHPCA 60  
QY 61 SLCCGHTCIDIGSFCDCRSQWEGRFGQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 120  
DB 61 SLCCGHTCIDIGSFCDCRSQWEGRFGQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 120  
QY 121 APGYKGDLLQCHPAVFPQGRPMKMEKRSKSLKRDTEQDQVDPRLIDGKMTRRGD 180  
DB 121 APGYKGDLLQCHPAVFPQGRPMKMEKRSKSLKRDTEQDQVDPRLIDGKMTRRGD 180  
QY 181 SPWQVVLDSKKKLAAGAVLIHPSWVLTAAHOMDESCKLVRLGGEYDLRRWEKWEIDLDI 240  
DB 181 SPWQVVLDSKKKLAAGAVLIHPSWVLTAAHOMDESCKLVRLGGEYDLRRWEKWEIDLDI 240

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Qy 1 ANSFLEELRHSSLERECIEIEICDFEBAKEIFQNVDDTLAFMSKRVADGQCLVPLLEHPCA 60
Db 1 ANSFLEELRHSSLERECIEIEICDFEBAKEIFQNVDDTLAFMSKRVADGQCLVPLLEHPCA 60
Qy 61 SLCCGHGTCIDIGISFCDCRSRSGWGRFCQREVSFLNCSLNDGCTHYCLEEYGMRRCSG 120
Db 61 SLCCGHGTCIDIGISFCDCRSRSGWGRFCQREVSFLNCSLNDGCTHYCLEEYGMRRCSG 120
Qy 121 APGYKLGDDLLQCHPAVKPCGRPWKRMEKRSKSHLKRTDEQEDQVDPRLIDGKMTRRGD 180
Db 121 APGYKLGDDLLQCHPAVKPCGRPWKRMEKRSKSHLKRTDEQEDQVDPRLIDGKMTRRGD 180
Qy 181 SPQWVLLDSKKKLAGAVLIHPSWVLTAAHQMDSKKLVRLGEYDLRREKWEIJDLDI 240
Db 181 SPQWVLLDSKKKLAGAVLIHPSWVLTAAHQMDSKKLVRLGEYDLRREKWEIJDLDI 240
Qy 241 KEVFVHPNYSKSTTDNDIALHLAQPATLSQTIIVPICLPSGLARELNQAQGETLVYGM 300
Db 241 KEVFVHPNYSKSTTDNDIALHLAQPATLSQTIIVPICLPSGLARELNQAQGETLVYGM 300
Qy 301 GHSSREKEAKRRRTFVLNFIKIPVPHNECSFVSNMVSNNMLCAGILGDRDACEGDS 360
Db 301 GHSSREKEAKRRRTFVLNFIKIPVPHNECSFVSNMVSNNMLCAGILGDRDACEGDS 360
Qy 361 GGPWVASFHGTWFLVGLVSMGEGCGLLHNYGYTKVSRYLDMHGHIRDEKAPQKSNAP 419
Db 361 GGPWVASFHGTWFLVGLVSMGEGCGLLHNYGYTKVSRYLDMHGHIRDEKAPQKSNAP 419

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RESULT 5  
US-09-978-917A-2

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; Sequence 2, Application US/09978917A
; Publication No. US20030027299A1
; GENERAL INFORMATION:
; APPLICANT: Maxygen Aps; Maxygen Holdings
; TITLE OF INVENTION: Protein C or activated protein C-like molecules
; FILE REFERENCE: 0219us310 - protein C
; CURRENT APPLICATION NUMBER: US/09/978,917A
; NUMBER OF SEQ ID NOS: 48
; SOFTWARE: Patent In Ver. 2.1
; SEQ ID NO 2
; LENGTH: 461
; TYPE: PRF
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: SIGNAL
; LOCATION: (1)...(42)
; NAME/KEY: CHAIN
; LOCATION: (43)...(461)
US-09-978-917A-2

```

Query Match 100.0%; Score 2324; DB 10; Length 461;

Best Local Similarity 100.0%; Pred. No. 4.2e-190; Indels 0; Gaps 0;

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Qy 1 ANSFLEELRHSSLERECIEIEICDFEBAKEIFQNVDDTLAFMSKRVADGQCLVPLLEHPCA 60
Db 43 ANSFLEELRHSSLERECIEIEICDFEBAKEIFQNVDDTLAFMSKRVADGQCLVPLLEHPCA 102
Qy 61 SLCCGHGTCIDIGISFCDCRSRSGWGRFCQREVSFLNCSLNDGCTHYCLEEYGMRRCSG 120
Db 103 SLCCGHGTCIDIGISFCDCRSRSGWGRFCQREVSFLNCSLNDGCTHYCLEEYGMRRCSG 162
Qy 121 APGYKLGDDLLQCHPAVKPCGRPWKRMEKRSKSHLKRTDEQEDQVDPRLIDGKMTRRGD 180
Db 163 APGYKLGDDLLQCHPAVKPCGRPWKRMEKRSKSHLKRTDEQEDQVDPRLIDGKMTRRGD 222
Qy 181 SPQWVLLDSKKKLAGAVLIHPSWVLTAAHQMDSKKLVRLGEYDLRREKWEIJDLDI 240
Db 223 SPQWVLLDSKKKLAGAVLIHPSWVLTAAHQMDSKKLVRLGEYDLRREKWEIJDLDI 282

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Qy 241 KEVFVHPNYSKSTTDNDIALHLAQPATLSQTIIVPICLPSGLARELNQAQGETLVYGM 300
Db 283 KEVFVHPNYSKSTTDNDIALHLAQPATLSQTIIVPICLPSGLARELNQAQGETLVYGM 342
Qy 301 GHSSREKEAKRRRTFVLNFIKIPVPHNECSFVSNMVSNNMLCAGILGDRDACEGDS 360
Db 343 GHSSREKEAKRRRTFVLNFIKIPVPHNECSFVSNMVSNNMLCAGILGDRDACEGDS 402
Qy 361 GGPWVASFHGTWFLVGLVSMGEGCGLLHNYGYTKVSRYLDMHGHIRDEKAPQKSNAP 419
Db 403 GGPWVASFHGTWFLVGLVSMGEGCGLLHNYGYTKVSRYLDMHGHIRDEKAPQKSNAP 461

```

RESULT 6  
US-09-997-623-2

```

; Sequence 2, Application US/09997623
; Publication No. US20030018175A1
; GENERAL INFORMATION:
; APPLICANT: Maxygen Aps; Maxygen Holdings
; TITLE OF INVENTION: Protein C or activated protein C-like molecules
; FILE REFERENCE: 0219us410 - protein C
; CURRENT APPLICATION NUMBER: US/09/997,623
; PRIOR APPLICATION NUMBER: US 09/978,917
; PRIORITY FILING DATE: 2001-10-17
; NUMBER OF SEQ ID NOS: 48
; SOFTWARE: Patent In Ver. 2.1
; SEQ ID NO 2
; LENGTH: 461
; TYPE: PRF
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: SIGNAL
; LOCATION: (1)...(42)
; NAME/KEY: CHAIN
; LOCATION: (43)...(461)
US-09-997-623-2

```

Query Match 100.0%; Score 2324; DB 12; Length 461;

Best Local Similarity 100.0%; Pred. No. 4.2e-190; Indels 0; Gaps 0;

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Qy 1 ANSFLEELRHSSLERECIEIEICDFEBAKEIFQNVDDTLAFMSKRVADGQCLVPLLEHPCA 60
Db 43 ANSFLEELRHSSLERECIEIEICDFEBAKEIFQNVDDTLAFMSKRVADGQCLVPLLEHPCA 102
Qy 61 SLCCGHGTCIDIGISFCDCRSRSGWGRFCQREVSFLNCSLNDGCTHYCLEEYGMRRCSG 120
Db 103 SLCCGHGTCIDIGISFCDCRSRSGWGRFCQREVSFLNCSLNDGCTHYCLEEYGMRRCSG 162
Qy 121 APGYKLGDDLLQCHPAVKPCGRPWKRMEKRSKSHLKRTDEQEDQVDPRLIDGKMTRRGD 180
Db 163 APGYKLGDDLLQCHPAVKPCGRPWKRMEKRSKSHLKRTDEQEDQVDPRLIDGKMTRRGD 222
Qy 181 SPQWVLLDSKKKLAGAVLIHPSWVLTAAHQMDSKKLVRLGEYDLRREKWEIJDLDI 240
Db 223 SPQWVLLDSKKKLAGAVLIHPSWVLTAAHQMDSKKLVRLGEYDLRREKWEIJDLDI 282
Qy 241 KEVFVHPNYSKSTTDNDIALHLAQPATLSQTIIVPICLPSGLARELNQAQGETLVYGM 300
Db 283 KEVFVHPNYSKSTTDNDIALHLAQPATLSQTIIVPICLPSGLARELNQAQGETLVYGM 342
Qy 301 GHSSREKEAKRRRTFVLNFIKIPVPHNECSFVSNMVSNNMLCAGILGDRDACEGDS 360
Db 343 GHSSREKEAKRRRTFVLNFIKIPVPHNECSFVSNMVSNNMLCAGILGDRDACEGDS 402
Qy 361 GGPWVASFHGTWFLVGLVSMGEGCGLLHNYGYTKVSRYLDMHGHIRDEKAPQKSNAP 419
Db 403 GGPWVASFHGTWFLVGLVSMGEGCGLLHNYGYTKVSRYLDMHGHIRDEKAPQKSNAP 461

```

RESULT 7  
US-10-182-263-2

QY 241 KEVFAHVNYSKSTTDNDIALHLAOPATLSQTIPTICLPSGLARELNQAQGETLVYGM 300  
DB 241 KEVFAHVNYSKSTTDNDIALHLAOPATLSQTIPTICLPSGLARELNQAQGETLVYGM 300  
QY 301 GYHSRREKAKRNTFVLANFKIPVPHNECSEVMNSVMNLCAGITGRODACEGDS 360  
DB 301 GYHSRREKAKRNTFVLANFKIPVPHNECSEVMNSVMNLCAGITGRODACEGDS 360  
QY 361 GGPWVASFHGTWFLVGLVSWGEGGGLHNHYGYTTSKRYLDWIHGHTRDEAPQKSNAP 419  
DB 361 GGPWVASFHGTWFLVGLVSWGEGGGLHNHYGYTTSKRYLDWIHGHTRDEAPQKSNAP 419

## RESULT 2

US-09-997-623-4  
Sequence 4, Application US/09997623  
Publication No. US20030018175A1  
GENERAL INFORMATION:  
APPLICANT: Maxygen Aps; Maxygen Holdings  
TITLE OF INVENTION: Protein C or activated protein C-like molecules  
FILE REFERENCE: 0219u410 - protein C  
CURRENT APPLICATION NUMBER: US/09/997,623  
PRIOR FILING DATE: 2001-11-29  
PRIOR APPLICATION NUMBER: US 09/978,917  
PRIOR FILING DATE: 2001-10-17  
NUMBER OF SEQ ID NOS: 48  
SOFTWARE: PatentIn Ver. 2.1  
SEQ ID NO 4  
LENGTH: 419  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-09-997-623-4

Query Match 100.0%; Score 2324; DB 12; Length 419;  
Best Local Similarity 100.0%; Pred. No. 3.8e-190;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLEBRLHSSLEKECEIEICDFEAKKEIFQNVDDTLAFWSKHVNDGQCLVPLERPCA 60  
DB 1 ANSFLEBRLHSSLEKECEIEICDFEAKKEIFQNVDDTLAFWSKHVNDGQCLVPLERPCA 60  
QY 61 SLCCGHGTCIDIGISFSCDCRSWEGRFGQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 120  
DB 61 SLCCGHGTCIDIGISFSCDCRSWEGRFGQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 120  
QY 121 APGYKLDGDLLOCHPAVFPQGRPMKRMKKRSHLKRDTEQDQVDPRLIDGKMTRRGD 180  
DB 121 APGYKLDGDLLOCHPAVFPQGRPMKRMKKRSHLKRDTEQDQVDPRLIDGKMTRRGD 180  
QY 181 SPQGVVLDSKKKLCAGAVLIHPSWVLTAAHQMDESKKLVRLGEYDLRRWEKXELDLDI 240  
DB 181 SPQGVVLDSKKKLCAGAVLIHPSWVLTAAHQMDESKKLVRLGEYDLRRWEKXELDLDI 240  
QY 241 KEVFAHVNYSKSTTDNDIALHLAOPATLSQTIPTICLPSGLARELNQAQGETLVYGM 300  
DB 241 KEVFAHVNYSKSTTDNDIALHLAOPATLSQTIPTICLPSGLARELNQAQGETLVYGM 300  
QY 301 GYHSRREKAKRNTFVLANFKIPVPHNECSEVMNSVMNLCAGITGRODACEGDS 360  
DB 301 GYHSRREKAKRNTFVLANFKIPVPHNECSEVMNSVMNLCAGITGRODACEGDS 360  
QY 361 GGPWVASFHGTWFLVGLVSWGEGGGLHNHYGYTTSKRYLDWIHGHTRDEAPQKSNAP 419  
DB 361 GGPWVASFHGTWFLVGLVSWGEGGGLHNHYGYTTSKRYLDWIHGHTRDEAPQKSNAP 419

## RESULT 3

US-10-182-263-1  
Sequence 1, Application US/10182263  
Publication No. US20030022354A1  
GENERAL INFORMATION:  
APPLICANT: Gerlitz, Bruce E  
APPLICANT: Jones, Bryan E

APPLICANT: Grinnell, Brian W  
TITLE OF INVENTION: PROTEIN C DERIVATIVES  
FILE REFERENCE: X-13611  
CURRENT APPLICATION NUMBER: US/10/182,263  
PRIOR FILING DATE: 2002-07-22  
PRIOR APPLICATION NUMBER: 60/181948  
PRIOR FILING DATE: 2002-02-11  
PRIOR APPLICATION NUMBER: 60/189199  
PRIOR FILING DATE: 2000-03-14  
NUMBER OF SEQ ID NOS: 12  
SOFTWARE: PatentIn version 3.1  
SEQ ID NO 1  
LENGTH: 419  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-182-263-1

Query Match 100.0%; Score 2324; DB 14; Length 419;  
Best Local Similarity 100.0%; Pred. No. 3.8e-190;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLEBRLHSSLEKECEIEICDFEAKKEIFQNVDDTLAFWSKHVNDGQCLVPLERPCA 60  
DB 1 ANSFLEBRLHSSLEKECEIEICDFEAKKEIFQNVDDTLAFWSKHVNDGQCLVPLERPCA 60  
QY 61 SLCCGHGTCIDIGISFSCDCRSWEGRFGQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 120  
DB 61 SLCCGHGTCIDIGISFSCDCRSWEGRFGQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 120  
QY 121 APGYKLDGDLLOCHPAVFPQGRPMKRMKKRSHLKRDTEQDQVDPRLIDGKMTRRGD 180  
DB 121 APGYKLDGDLLOCHPAVFPQGRPMKRMKKRSHLKRDTEQDQVDPRLIDGKMTRRGD 180  
QY 181 SPQGVVLDSKKKLCAGAVLIHPSWVLTAAHQMDESKKLVRLGEYDLRRWEKXELDLDI 240  
DB 181 SPQGVVLDSKKKLCAGAVLIHPSWVLTAAHQMDESKKLVRLGEYDLRRWEKXELDLDI 240  
QY 241 KEVFAHVNYSKSTTDNDIALHLAOPATLSQTIPTICLPSGLARELNQAQGETLVYGM 300  
DB 241 KEVFAHVNYSKSTTDNDIALHLAOPATLSQTIPTICLPSGLARELNQAQGETLVYGM 300  
QY 301 GYHSRREKAKRNTFVLANFKIPVPHNECSEVMNSVMNLCAGITGRODACEGDS 360  
DB 301 GYHSRREKAKRNTFVLANFKIPVPHNECSEVMNSVMNLCAGITGRODACEGDS 360  
QY 361 GGPWVASFHGTWFLVGLVSWGEGGGLHNHYGYTTSKRYLDWIHGHTRDEAPQKSNAP 419  
DB 361 GGPWVASFHGTWFLVGLVSWGEGGGLHNHYGYTTSKRYLDWIHGHTRDEAPQKSNAP 419

## RESULT 4

US-10-168-407-1  
Sequence 1, Application US/10168407  
Publication No. US20030207435A1  
GENERAL INFORMATION:  
APPLICANT: Gerlitz, Bruce E  
APPLICANT: Jones, Bryan E  
TITLE OF INVENTION: PROTEIN C DERIVATIVES  
FILE REFERENCE: X-13610  
CURRENT APPLICATION NUMBER: US/10/168,407  
PRIOR FILING DATE: 2002-11-04  
NUMBER OF SEQ ID NOS: 12  
SOFTWARE: PatentIn version 3.1  
SEQ ID NO 1  
LENGTH: 419  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-168-407-1

Query Match 100.0%; Score 2324; DB 15; Length 419;  
Best Local Similarity 100.0%; Pred. No. 3.8e-190;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

GenCore version 5.1.6  
Copyright (c) 1993 - 2004 CompuGen Ltd.

## OM protein - protein search, using sw model

Run on: June 2, 2004, 16:55:32 ; Search time 48 Seconds

(without alignments)  
2455.852 Million cell updates/sec

Title: US-09-997-623-4

Perfect score: 2324

Sequence: 1 ANSFLERHSSLERECIEE.....LDWTHGRDKEAPQKSWAP 419

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1155919 seqs, 281338677 residues

Total number of hits satisfying chosen parameters: 1155919

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database :

Published Applications\_AA:\*  
1: /cgn2\_6/prodata/2/pubppa/US07\_PUBCOMB.pep:\*  
2: /cgn2\_6/prodata/2/pubppa/US06\_PUBCOMB.pep:\*  
3: /cgn2\_6/prodata/2/pubppa/US05\_PUBCOMB.pep:\*  
4: /cgn2\_6/prodata/2/pubppa/US04\_PUBCOMB.pep:\*  
5: /cgn2\_6/prodata/2/pubppa/US03\_PUBCOMB.pep:\*  
6: /cgn2\_6/prodata/2/pubppa/US02\_PUBCOMB.pep:\*  
7: /cgn2\_6/prodata/2/pubppa/US01\_PUBCOMB.pep:\*  
8: /cgn2\_6/prodata/2/pubppa/US00\_PUBCOMB.pep:\*  
9: /cgn2\_6/prodata/2/pubppa/US09\_PUBCOMB.pep:\*  
10: /cgn2\_6/prodata/2/pubppa/US08\_PUBCOMB.pep:\*  
11: /cgn2\_6/prodata/2/pubppa/US07\_PUBCOMB.pep:\*  
12: /cgn2\_6/prodata/2/pubppa/US06\_PUBCOMB.pep:\*  
13: /cgn2\_6/prodata/2/pubppa/US05\_PUBCOMB.pep:\*  
14: /cgn2\_6/prodata/2/pubppa/US04\_PUBCOMB.pep:\*  
15: /cgn2\_6/prodata/2/pubppa/US03\_PUBCOMB.pep:\*  
16: /cgn2\_6/prodata/2/pubppa/US02\_PUBCOMB.pep:\*  
17: /cgn2\_6/prodata/2/pubppa/US01\_PUBCOMB.pep:\*  
18: /cgn2\_6/prodata/2/pubppa/US00\_PUBCOMB.pep:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	2324	100.0	419	10	US-09-978-917A-4 Sequence 4, Appli
2	2324	100.0	419	12	US-09-997-623-4 Sequence 4, Appli
3	2324	100.0	419	14	US-10-182-263-1 Sequence 1, Appli
4	2324	100.0	419	15	US-10-168-407-1 Sequence 2, Appli
5	2324	100.0	461	10	US-09-978-917A-2 Sequence 2, Appli
6	2324	100.0	461	12	US-09-997-623-2 Sequence 2, Appli
7	2324	100.0	461	14	US-10-182-263-2 Sequence 2, Appli
8	2324	100.0	461	15	US-10-168-407-2 Sequence 2, Appli
9	2306	99.2	419	15	US-10-168-407-3 Sequence 4, Appli
10	2302	99.1	419	15	US-10-168-407-4 Sequence 4, Appli
11	2298	98.9	415	12	US-10-670-628-2 Sequence 2, Appli
12	2298	98.9	415	15	US-10-168-407-5 Sequence 5, Appli
13	2296	98.8	419	14	US-10-182-263-5 Sequence 6, Appli
14	2294	98.7	419	15	US-10-168-407-6 Sequence 3, Appli
15	2290	98.5	419	14	US-10-182-263-3 Sequence 3, Appli

16	2288	98.5	419	14	US-10-182-263-6 Sequence 6, Appli
17	2286	98.4	419	12	US-10-182-263-4 Sequence 4, Appli
18	809	34.8	488	12	US-10-406-031-27 Sequence 27, Appli
19	803	34.6	488	14	US-10-348-504-44 Sequence 44, Appli
20	803	34.6	488	14	US-10-407-123-27 Sequence 27, Appli
21	783	33.7	406	15	US-09-782-587B-3 Sequence 3, Appli
22	783	33.7	406	15	US-10-383-898-1 Sequence 1, Appli
23	783	33.7	406	16	US-10-263-205B-2 Sequence 2, Appli
24	783	33.7	444	12	US-10-411-037-8 Sequence 8, Appli
25	783	33.7	444	12	US-10-382-248-34 Sequence 34, Appli
26	783	33.7	444	12	US-10-411-026-8 Sequence 8, Appli
27	783	33.7	444	16	US-10-410-962-8 Sequence 8, Appli
28	783	33.7	444	16	US-10-411-049-8 Sequence 8, Appli
29	783	33.7	444	16	US-10-263-205B-3 Sequence 3, Appli
30	783	33.7	466	14	US-10-017-122-2 Sequence 2, Appli
31	783	33.7	466	15	US-10-375-741-14 Sequence 14, Appli
32	783	33.7	467	12	US-10-406-031-8 Sequence 8, Appli
33	782	33.6	467	12	US-10-406-031-5 Sequence 5, Appli
34	779.5	33.5	454	12	US-10-406-031-11 Sequence 11, Appli
35	779	33.5	405	15	US-10-360-101-225 Sequence 225, App
36	777	33.4	467	12	US-10-406-031-2 Sequence 2, Appli
37	775.5	33.4	455	12	US-10-406-031-17 Sequence 17, Appli
38	758.5	32.6	453	12	US-10-406-031-14 Sequence 14, Appli
39	749.5	32.3	437	12	US-10-712-332-2 Sequence 2, Appli
40	746	32.1	488	12	US-10-712-332-1 Sequence 1, Appli
41	741.5	31.9	437	12	US-10-712-332-3 Sequence 3, Appli
42	740	31.8	461	16	US-10-038-854-94 Sequence 94, Appli
43	739	31.8	456	16	US-10-038-854-96 Sequence 96, Appli
44	736	31.7	456	16	US-10-038-854-95 Sequence 95, Appli
45	736	31.7	461	9	US-09-884-901-3 Sequence 3, Appli

## ALIGNMENTS

RESULT 1  
US-09-978-917A-4  
Sequence 4, Application US/09978917A  
Publication No. US20030027299A1  
GENERAL INFORMATION:  
APPLICANT: Maxigen Aps; Maxigen Holdings  
TITLE OF INVENTION: Protein C or activated protein C-like molecules  
FILE REFERENCE: 02198310 - protein C  
CURRENT APPLICATION NUMBER: US/09/978, 917A  
CURRENT FILING DATE: 2001-10-17  
NUMBER OF SEQ ID NOS: 48  
SOFTWARE: PatentIn Ver. 2.1  
SEQ ID NO 4  
LENGTH: 419  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-09-978-917A-4

Query Match 100.0%; Score 2324; DB 10; Length 419;  
Best Local Similarity 100.0%; Pred. No. 3.8e-190;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY	1	ANSFLERHSSLERECIEECPFEAKETIPONTVDITAFMSHYVGDQCVLPLEHPCA	60
DB	1	ANSFLERHSSLERECIEECPFEAKETIPONTVDITAFMSHYVGDQCVLPLEHPCA	60
QY	61	SLCCGHTCIDIGISFSCDGRSGMEGRFCQREVSFLNCSLDNGGCTHYCLEVGMRRSC	120
DB	61	SLCCGHTCIDIGISFSCDGRSGMEGRFCQREVSFLNCSLDNGGCTHYCLEVGMRRSC	120
QY	121	APGYKLDLDDLCCHPAVYFPCGRPMKMEKRSKXRTDQEDQVDPRLIDGKMTGRD	180
DB	121	APGYKLDLDDLCCHPAVYFPCGRPMKMEKRSKXRTDQEDQVDPRLIDGKMTGRD	180
QY	181	SPQVVLDSKKKLAAGAVLTHPSWVLTAAHGMDSKKLVRGLGEVLDLRMEKELDDI	240
DB	181	SPQVVLDSKKKLAAGAVLTHPSWVLTAAHGMDSKKLVRGLGEVLDLRMEKELDDI	240

PI Murray MJ, Berkner KL, Foster DC;  
XX  
XX MPI: 1996-251006/25.  
DR N-PSDB; AAT32795, AAT32796.

PT New DNA encoding modified forms of opt. activated protein C - and related  
PT transformed cells for prodn. of recombinant protein C for use e.g. as an  
PT anti-thrombotic agent.

XX  
XX Example 1; Fig 2A-C; 34pp; English.

CC Human protein C (AA02600) is a zymogen of a serine protease that plays  
CC an important role in the regulation of blood coagulation and the  
CC generation of fibrinolytic activity in vivo. It is synthesised in the  
CC liver and processed to a 2-chain molecule, which is itself converted to  
CC activated protein C. Protein C and activated protein C are useful in the  
CC treatment of thrombotic disorders. They can be produced e.g. in mammalian  
CC host cells using a cDNA clone (AAT32795) derived from Hep G2 cells.  
CC Variant protein C, modified to improve cleavage between the heavy and  
CC light chains of the circulating intermediate, can also be produced.  
CC (Updated on 25-MAR-2003 to correct PF field.)

XX  
SQ Sequence 461 AA:

Query Match 100.0%; Score 2324; DB 2; Length 461;

Best Local Similarity 100.0%; Pred. No. 3.3e-143;

Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY	1	ANSTLEELRHSSLEECIEELCDPEAKEIFQNVDDTLAFMSKHYVDGQCLVPLEHPCA	60
DB	43	ANSTLEELRHSSLEECIEELCDPEAKEIFQNVDDTLAFMSKHYVDGQCLVPLEHPCA	102
QY	61	SLCCGHTCIDIIGSFSCDCRSQSGMGRFCQREVSFLNCSLDNGCTHYCLEVGMKRCSC	120
DB	103	SLCCGHTCIDIIGSFSCDCRSQSGMGRFCQREVSFLNCSLDNGCTHYCLEVGMKRCSC	162
QY	121	APGYKIGDDLQCHPAVFPQGRPMRMEKRSKSHIKRDTEDQEDQVDPRLIDGMTRRGD	180
DB	163	APGYKIGDDLQCHPAVFPQGRPMRMEKRSKSHIKRDTEDQEDQVDPRLIDGMTRRGD	222
QY	181	SPWQVVLDSKKKLAQAVLIHPSWLTAAHQMDESKKLVRLGEYDLRMEKMELDLDT	240
DB	223	SPWQVVLDSKKKLAQAVLIHPSWLTAAHQMDESKKLVRLGEYDLRMEKMELDLDT	282
QY	241	KEVFVHPNYSKSTINDIALHLAOPATLSQTIIVPICLPDSGLAEHELNOAGQETLVGW	300
DB	283	KEVFVHPNYSKSTINDIALHLAOPATLSQTIIVPICLPDSGLAEHELNOAGQETLVGW	342
QY	301	GYHSSREKAKRRTFTVNFYIKIPVYPHNECSEVSNMVSNNMLCAGILGDRDACEGDS	360
DB	343	GYHSSREKAKRRTFTVNFYIKIPVYPHNECSEVSNMVSNNMLCAGILGDRDACEGDS	402
QY	361	GGPWVASFGHTWFLVGLVSGEGGLHNYGYTQVSRYLDMVHGHIRKPAPOKSWAP	419
DB	403	GGPWVASFGHTWFLVGLVSGEGGLHNYGYTQVSRYLDMVHGHIRKPAPOKSWAP	461

Search completed: June 2, 2004, 16:55:25  
Job time : 63 secs

CC agent or a fibrinolysis promoter  
XX  
SQ Sequence 461 AA;

Query Match 100.0%; Score 2324; DB 2; Length 461;  
Best Local Similarity 100.0%; Pred. No. 3.3e-143;  
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSPLEELRHSSLERECIEICDPFEAKEIFQVNDVDTLAFMSKAVDQCLVLPLEHPCA 60  
DB 43 ANSPLEELRHSSLERECIEICDPFEAKEIFQVNDVDTLAFMSKAVDQCLVLPLEHPCA 102  
QY 61 SLCCGHGTCIDIGISFSCDSCSGWGRFCQREVSPFNGSLDGGCTHYCLAEVGRRCSC 120  
DB 103 SLCCGHGTCIDIGISFSCDSCSGWGRFCQREVSPFNGSLDGGCTHYCLAEVGRRCSC 162  
QY 121 ARGYTLGDDLLQCHPAVKPCGRPKMEKKRSHLRDTEQEDQVPRLLDCKMTRRGD 180  
DB 163 ARGYTLGDDLLQCHPAVKPCGRPKMEKKRSHLRDTEQEDQVPRLLDCKMTRRGD 222  
QY 181 SPQVVLDSKKKLCAGVLIHPVLTAAHCDSESKLLVRLGEYDLRRWEKMLDDI 240  
DB 223 SPQVVLDSKKKLCAGVLIHPVLTAAHCDSESKLLVRLGEYDLRRWEKMLDDI 282  
QY 241 KEVFPVNYSKSTTNDIALHLAOPATLSQTTVPICLPDSGLARELNQAGETLVYTW 300  
DB 283 KEVFPVNYSKSTTNDIALHLAOPATLSQTTVPICLPDSGLARELNQAGETLVYTW 342  
QY 301 GHSSREKREKRRNTVLPFIPIVPHNCSFVMSNMVSENMCAIILDRODACEDS 360  
DB 343 GHSSREKREKRRNTVLPFIPIVPHNCSFVMSNMVSENMCAIILDRODACEDS 402  
QY 361 GSPWVASFHGTWFLVGLVSGEGCGLLHNYGVYTKSRYLDMWIGHIRLDEAPQKSNAP 419  
DB 403 GSPWVASFHGTWFLVGLVSGEGCGLLHNYGVYTKSRYLDMWIGHIRLDEAPQKSNAP 461

## RESULT 15

AAW02600  
ID AAW02600 standard; protein; 461 AA.

XX  
AC AAW02600;

DT 25-MAR-2003 (revised)  
DT 05-NOV-1996 (first entry)  
XX

DE Human protein C.

KM Activated protein C; serine protease; thrombosis; thrombolytic;  
KM fibrinolytic; antithrombotic; blood clotting; therapy.

XX  
OS Homo sapiens.

PH Key Location/Qualifiers

FT Peptide 1..42  
FT /label= Pre-pro-peptide

FT Protein 43..461  
FT /label= Mat\_protein

FT Domain 59..64  
FT /label= GLA\_domain

FT Disulfide-bond 92  
FT /note= "forms disulphide bond with Cys111"

FT Disulfide-bond 101  
FT /note= "forms disulphide bond with Cys105"

FT Disulfide-bond 105  
FT /note= "forms disulphide bond with Cys101"

FT Disulfide-bond 106  
FT /note= "forms disulphide bond with Cys120"

FT Disulfide-bond 111  
FT /note= "forms disulphide bond with Cys92"

FT Disulfide-bond 120  
FT /note= "forms disulphide bond with Cys106"

FT Disulfide-bond 122

FT Disulfide-bond 131  
FT /note= "forms disulphide bond with Cys131"  
FT Modified-site 138  
FT /label= N-glycosylation\_site  
FT Disulfide-bond 140  
FT /note= "forms disulphide bond with Cys151"  
FT Disulfide-bond 147  
FT /note= "forms disulphide bond with Cys160"  
FT Disulfide-bond 151  
FT /note= "forms disulphide bond with Cys140"  
FT Disulfide-bond 160  
FT /note= "forms disulphide bond with Cys147"  
FT Disulfide-bond 162  
FT /note= "forms disulphide bond with Cys175"  
FT Disulfide-bond 175  
FT /note= "forms disulphide bond with Cys162"  
FT Disulfide-bond 183  
FT /note= "forms disulphide bond with Cys319"  
FT Misc-difference 196  
FT /note= "residue 196 is replaced by Lys, Arg or in constructs of the invention"  
FT Cleavage-site 197..198  
FT /note= "cleavage site for connecting dipeptide"  
FT Misc-difference 198..199  
FT /note= "residues 198-199 are replaced by Lys-Lys or Arg-Arg in constructs of the invention"  
FT Cleavage-site 198..199  
FT /note= "cleavage site between connecting dipeptide and activation peptide"  
FT Peptide 200..211  
FT /label= Activated\_protein-C  
FT Misc-difference 200  
FT /note= "residue 200 is replaced by Ala, Ser, Thr or Gly in constructs of the invention"  
FT Cleavage-site 211..212  
FT /note= "cleavage site for activation peptide"  
FT Disulfide-bond 238  
FT /note= "forms disulphide bond with Cys254"  
FT Disulfide-bond 254  
FT /note= "forms disulphide bond with Cys238"  
FT Modified-site 290  
FT /label= N-glycosylation\_site  
FT Disulfide-bond 319  
FT /label= N-glycosylation\_site  
FT Modified-site 355  
FT /label= N-glycosylation\_site  
FT Modified-site 371  
FT /label= N-glycosylation\_site  
FT Disulfide-bond 373  
FT /note= "forms disulphide bond with Cys387"  
FT Disulfide-bond 387  
FT /note= "forms disulphide bond with Cys373"  
FT Disulfide-bond 398  
FT /note= "forms disulphide bond with Cys426"  
FT Disulfide-bond 426  
FT /note= "forms disulphide bond with Cys 398"

PN US516650-A.  
XX  
PD 14-MAY-1996.  
XX  
PF 08-APR-1994; 94US-00225253.  
XX  
PR 27-JUN-1985; 85US-00749600.  
PR 29-OCT-1986; 86US-00924462.  
PR 08-DEC-1987; 87US-00130370.  
PR 28-FEB-1989; 89US-00317205.  
PR 10-SEP-1990; 90US-00582131.  
PR 04-DEC-1992; 92US-00987532.  
XX  
PX (ZYMO ) ZYMOGENETICS INC.  
XX



FT Modified-site /label= gamma carboxyglutamic acid  
 FT 139  
 FT Cleavage-site /label= N-glycosylation site  
 FT 197, .198  
 FT Cleavage-site /label= proteolytic cleavage  
 FT 199, .200  
 FT Cleavage-site /label= proteolytic cleavage  
 FT 201, .211  
 FT Peptide /label= activation peptide  
 FT Region 212, .461  
 FT Modified-site /label= heavy chain  
 FT 250  
 FT Modified-site /label= N-glycosylation site  
 FT 335  
 FT Modified-site /label= N-glycosylation site  
 FT 371  
 FT Modified-site /label= N-glycosylation site  
 FT 371  
 XX MO9109951-A.  
 XX 11-JUL-1991.  
 XX 22-DEC-1989; 89US-00456092.  
 XX 22-DEC-1989; 89US-00456092.  
 XX 22-DEC-1989; 89US-00456092.  
 XX (ZYMO) ZYMOGENETICS INC.  
 XX (TEIJ) TEIJIN LTD.  
 XX Foster DC, Holly RD, Suzuki M, Wakabayashi K, Kumar AA,  
 XX WPI, 1991-222903/30.  
 XX N-PSDB; AAQ12649.  
 XX Recombinant protein C with truncated light chain - for use as an  
 XX anticoagulant.  
 XX  
 XX Disclosure; Fig 1; 60pp; English.  
 XX  
 XX The sequence was deduced from a clone isolated from a cDNA library prepd.  
 XX from mRNA from Hep G2 cells. It is a protein C precursor, including light  
 XX and heavy chains, which is cleaved to produce activated protein C (see  
 XX feature table). The DNA encoding the sequence can be manipulated by  
 XX genetic engineering techniques to express a protein comprising (when  
 XX activated) a heavy chain and a truncated light chain comprising residues  
 XX 1-149, 1-150, 1-151 or 1-152 of the natural sequence. The protein pref.  
 XX comprises the precursor of formula: Pre-pro-L-X-H Pre-pro = pre-pro  
 XX peptide of protein C with all/part replaced by the corresponding peptide  
 XX of either protein S, factors VII, IX or X, or prothrombin; L = Aaa 1-149,  
 XX 150, 151 or 152 of light chain; X = 3-10 lys/arg residues; and H = heavy  
 XX chain. Cells transformed with expression vectors contg. the modified DNA  
 XX sequences produce the new proteins which can be used to regulate  
 XX anticoagulant and fibrinolytic systems. See also W09112320 (AAR13074).  
 XX (Updated on 25-MAR-2003 to correct PA field.)  
 XX  
 XX SQ Sequence 461 AA;  
 XX  
 XX Query Match 100.0%; Score 2324; DB 2; Length 461;  
 XX Best Local Similarity 100.0%; Pred. No. 3,3e-143;  
 XX Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 XX  
 XX QY 1 ANSFLERHSSLEKECEIEICPEAKKIFONVDDTLAWSRHVDGQCLVPLEHPCA 60  
 XX 43 ANSFLERHSSLEKECEIEICPEAKKIFONVDDTLAWSRHVDGQCLVPLEHPCA 102  
 XX DB 61 SLCCGHGTCIDIGISFSCDCRSQMEGRFCOREVSHLNCIDNGGCTHYCLEEVGMRRSCC 120  
 XX 103 SLCCGHGTCIDIGISFSCDCRSQMEGRFCOREVSHLNCIDNGGCTHYCLEEVGMRRSCC 162  
 XX QY 121 APGYKLDLLQCHAVAFPCGRPRMKRKKSHLKDTPDDQDQVDRLLIDGMTRKGD 180  
 XX DB 153 APGYKLDLLQCHAVAFPCGRPRMKRKKSHLKDTPDDQDQVDRLLIDGMTRKGD 222

QY 181 SPWQVYLIDSKKKLACGAVLTHPSVTLTAHCHMDSSKKLVRLGEYDLRERKEMELDIDI 240  
 DB 223 SPWQVYLIDSKKKLACGAVLTHPSVTLTAHCHMDSSKKLVRLGEYDLRERKEMELDIDI 282  
 QY 241 KEVFNHPSKSTTDNDIALHLAOPATLSQTTVPICLPDSGLAEELINAOQETLVYGM 300  
 DB 283 KEVFNHPSKSTTDNDIALHLAOPATLSQTTVPICLPDSGLAEELINAOQETLVYGM 342  
 QY 301 GYHSSREKEAKRNRTPVNFIKIPVPHNECESEWMSNNVSENMLCAGILGDRQDACEGDS 360  
 DB 343 GYHSSREKEAKRNRTPVNFIKIPVPHNECESEWMSNNVSENMLCAGILGDRQDACEGDS 402  
 QY 361 GGPVWASPHGTWPLVGLVSWEGCGLLHANYGYTVKSYRYLDMHGHTRKAPQKSNAP 419  
 DB 403 GGPVWASPHGTWPLVGLVSWEGCGLLHANYGYTVKSYRYLDMHGHTRKAPQKSNAP 461  
 RESULT 14  
 ID AAR34295 standard; protein; 461 AA.  
 XX AAR34295;  
 AC AAR34295;  
 XX 10-AUG-1993 (first entry)  
 DT 10-AUG-1993 (first entry)  
 XX Protein C.  
 DE Protein C.  
 XX Protein C; heavy chain; light chain; anticoagulant; fibrinolysis;  
 KW promoter; anticoagulant.  
 XX Homo sapiens.  
 OS Homo sapiens.  
 XX Key Location/Qualifiers  
 FH 193, .197  
 FT Peptide /label= C-terminal  
 FT /note= "light chain"  
 FT 194, .197  
 FT Peptide /label= C-terminal  
 FT /note= "light chain"  
 FT 200, .211  
 FT Peptide /label= N-terminal  
 FT /note= "heavy chain"  
 FT 451, .461  
 FT Peptide /label= C-terminal  
 FT /note= "heavy chain"  
 FT 458, .461  
 FT Peptide /label= C-terminal  
 FT /note= "heavy chain"  
 XX JF05064588-A.  
 XX 19-MAR-1993.  
 PD 19-MAR-1993.  
 XX 14-AUG-1991; 91JP-00228687.  
 PF 14-AUG-1991; 91JP-00228687.  
 XX 14-AUG-1991; 91JP-00228687.  
 PR 14-AUG-1991; 91JP-00228687.  
 XX (TEIJ) TEIJIN LTD.  
 XX WPI; 1993-128866/16.  
 XX  
 XX Human protein C and activated protein C with short H chains - useful as  
 XX anti-clotting agents and fibrinolysis promoters.  
 XX  
 XX Disclosure; Fig 1; 8pp; Japanese.  
 XX  
 XX A human protein C or an activated protein C has a H chain contg. one of  
 XX the residues 239-246 (= residues 450-457 in the sequence below) in the H  
 XX chain of natural activated protein C as the C-terminal, or has a L chain  
 XX contg. one of the residues 141-155 (= residues 149-155 in the sequence  
 XX below), pref. residues 149-155 (= residues 149-155 in the sequence below)  
 XX in the L chain of natural activated protein C as the C-terminal. The  
 XX human protein C or the activated protein C can be used as an anticoagulant

QY 121 APGYKLDGDLQCHPAVKPCGRPWKEMKKKSHLKRDTEDQDVDPRLIDGKMTRRGD 180  
 Db 163 APGYKLDGDLQCHPAVKPCGRPWKEMKKKSHLKRDTEDQDVDPRLIDGKMTRRGD 222  
 QY 181 SPQVYLLDSKKKLAAGAVLIHPSWVLTAAHOMDESKKLVRLGEYDLRMEKWEMLDLDI 240  
 Db 223 SPQVYLLDSKKKLAAGAVLIHPSWVLTAAHOMDESKKLVRLGEYDLRMEKWEMLDLDI 282  
 QY 241 KEVFPVHNSKSTTDNDIALHLAQPATLSQTTVPICLPDSGLARELNQAGETLVYWG 300  
 Db 283 KEVFPVHNSKSTTDNDIALHLAQPATLSQTTVPICLPDSGLARELNQAGETLVYWG 342  
 QY 301 GHSSREKAKRNRTFVNFIRKIPVPHNECEVMSNMVSENMLCAGILGRDACEGDS 360  
 Db 343 GHSSREKAKRNRTFVNFIRKIPVPHNECEVMSNMVSENMLCAGILGRDACEGDS 402  
 QY 361 GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGVYTKVSRYLWDHIGHIRDKKAPQKSWAP 419  
 Db 403 GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGVYTKVSRYLWDHIGHIRDKKAPQKSWAP 461

## RESULT 12

AA13081  
 ID AA13081 standard; protein; 461 AA.

XX AC AA13081;  
 XX DT 25-MAR-2003 (revised)  
 DT 30-SEP-1991 (first entry)  
 DE Human protein C.  
 XX KW Phospholipid; binding protein; lipocortin; domain; vitamin K; PBP;  
 XX OS gla-domain; VKDP.  
 XX OS Homo sapiens.  
 XX FH Key Location/Qualifiers  
 FT Peptide 1..42  
 FT Protein 43..461  
 FT /label= sig\_peptide  
 FT /label= mat\_protein  
 XX PN W09109953-A.  
 XX PD 11-JUL-1991.  
 XX PF 29-DEC-1989; 89US-00459082.  
 XX PR 29-DEC-1989; 89US-00459082.  
 XX PA (ZYMO) ZYMOGENETICS INC.  
 XX PI Foster DC;  
 XX DR WPI; 1991-222905/30.  
 XX DR N-PSDB; AAQ12678.  
 XX PT Recombinant prodn. of hybrid phospholipid-binding proteins - comprising  
 XX PT lipocortin phospholipid-binding domain and vitamin-K-dependent protein.  
 XX PS Disclosure; Fig 2; 57pp; English.  
 CC This sequence, or a fragment of it, is used in the construction of hybrid  
 CC phospholipid-binding proteins (PBP) having the same biological activity  
 CC as human protein C or human activated protein C. The hybrid sequence  
 CC would comprise at least one lipocortin phospholipid binding domain (PBD),  
 CC e.g. of PAP-I, joined to a gla-domainless protein C or activated protein  
 CC C. See AAQ12680-81 for such examples. See also AAQ12678-81. (Updated on  
 CC 25-MAR-2003 to correct PA field.)  
 XX SQ Sequence 461 AA;

Query Match 100.0%; Score 2324; DB 2; Length 461;  
 Best Local Similarity 100.0%; Pred. No. 3,3e-143;  
 Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLLEHSHSLRECEIEICDFEAKEIFQNVDDTLAFWSKHYVDGQCLVPLBHPQA 60  
 Db 43 ANSFLLEHSHSLRECEIEICDFEAKEIFQNVDDTLAFWSKHYVDGQCLVPLBHPQA 102  
 QY 61 SLCCGTCITDIDISFSCDCRSGBERFCQREVSFLNCSLDNGCCTHYCLEEVGMRRCSC 120  
 Db 103 SLCCGTCITDIDISFSCDCRSGBERFCQREVSFLNCSLDNGCCTHYCLEEVGMRRCSC 162  
 QY 121 APGYKLDGDLQCHPAVKPCGRPWKEMKKKSHLKRDTEDQDVDPRLIDGKMTRRGD 180  
 Db 163 APGYKLDGDLQCHPAVKPCGRPWKEMKKKSHLKRDTEDQDVDPRLIDGKMTRRGD 222  
 QY 181 SPQVYLLDSKKKLAAGAVLIHPSWVLTAAHOMDESKKLVRLGEYDLRMEKWEMLDLDI 240  
 Db 223 SPQVYLLDSKKKLAAGAVLIHPSWVLTAAHOMDESKKLVRLGEYDLRMEKWEMLDLDI 282  
 QY 241 KEVFPVHNSKSTTDNDIALHLAQPATLSQTTVPICLPDSGLARELNQAGETLVYWG 300  
 Db 283 KEVFPVHNSKSTTDNDIALHLAQPATLSQTTVPICLPDSGLARELNQAGETLVYWG 342  
 QY 301 GHSSREKAKRNRTFVNFIRKIPVPHNECEVMSNMVSENMLCAGILGRDACEGDS 360  
 Db 343 GHSSREKAKRNRTFVNFIRKIPVPHNECEVMSNMVSENMLCAGILGRDACEGDS 402  
 QY 361 GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGVYTKVSRYLWDHIGHIRDKKAPQKSWAP 419  
 Db 403 GGPVVASFHGTWFLVGLVSWGEGCGLLHNYGVYTKVSRYLWDHIGHIRDKKAPQKSWAP 461

## RESULT 13

AA13074  
 ID AA13074 standard; protein; 461 AA.

XX AC AA13074;  
 XX DT 25-MAR-2003 (revised)  
 DT 02-OCT-1991 (first entry)  
 DE Protein C precursor.  
 XX KW Anticoagulant; fibrinolysis.  
 XX OS Homo sapiens.  
 XX FH Key Location/Qualifiers  
 FT Peptide 2..42  
 FT Region 43..197  
 FT Domain 43..79  
 FT Modified-site 48  
 FT Modified-site 49  
 FT Modified-site 56  
 FT Modified-site 58  
 FT Modified-site 61  
 FT Modified-site 62  
 FT Modified-site 67  
 FT Modified-site 68  
 FT Modified-site 71

PR 28-DEC-1987; 87US-00138009.

XX (ELLI ) LILLY & CO ELI.

XX Bang NU, Ehrlich HU, Grinell BW, Yan SB;

XX WPI; 1989-194452/27.

XX N-PSDB; AAN90187.

XX New DNA encoding zymogen form of human protein C - and its activated  
PT deriv., useful as e.g. antithrombotic agents more sensitive to thrombin  
PT activation.

XX Disclosure: Page 4 - 7; 65pp; English.

XX This is the protein sequence of nascent human protein C encoded by the  
CC DNA of AAN90187, which is derived from cDNA clones prep'd. from human  
CC liver mRNA. It comprises the following regions: residues 1-42 are the  
CC signal peptide and propeptide of human protein C; important for directing  
CC secretion and gamma-carboxylation of protein C; residues 43-197, once  
CC post-translationally modified, constitute the light chain of both the  
CC two-chain zymogen and activated forms of protein C; residues 198-9 are  
CC believed to be removed (on basis of homology with bovine protein C),  
CC probably by a 2 step process comprising a first cleavage (either between  
CC residues 197-8 or 199-200), followed by carboxypeptidase or  
CC aminopeptidase action, to form 2 chain protein C; residues 200-211  
CC constitute the activation peptide, which is removed from the zymogen  
CC forms to obtain activated protein C; residues 212-461, once post-  
CC translationally modified, constitute the activated heavy chain of active  
CC protein C; and the heavy chain of the 2 chain form of protein C zymogen,  
CC once post-translationally-modified, is composed of residues 200-461.  
CC Protein C zymogen and activated protein C are regulators of haemostasis,  
CC differing from native protein C by increased sensitivity to activation by  
CC thrombin and thrombin/ thrombomodulin (even in presence of Ca ions) and  
CC longer in vivo half life. They are useful as on-demand antithrombotic  
CC agents, (replacements for heparin and hydroxycoumarins) and for treatment  
CC of hereditary protein C deficiency states. (Updated on 25-MAR-2003 to  
CC correct PA field.)

XX Sequence 461 AA;

XX Query Match 100.0%; Score 2324; DB 1; Length 461;

XX Best Local Similarity 100.0%; Pred. No. 3.3e-143;

XX Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

XX 1 ANSFLEERHSSLEERCEIEICDFEAKKIFONVDDTLAFWSKHVGDQCLVPLEHPCA 60

XX 43 ANSFLEERHSSLEERCEIEICDFEAKKIFONVDDTLAFWSKHVGDQCLVPLEHPCA 102

XX 61 SLCCGHGTCTIDIGISFSDCRSGWGRFCQREVSTFNCSDNGGCTHYCLEEVMRRCSC 120

XX 103 SLCCGHGTCTIDIGISFSDCRSGWGRFCQREVSTFNCSDNGGCTHYCLEEVMRRCSC 162

XX 121 APGYKLGDDLLQCHPAVFPQGRPMRMEKKSASHKEDTEDQEDQVRLIDGKMTERRG 180

XX 163 APGYKLGDDLLQCHPAVFPQGRPMRMEKKSASHKEDTEDQEDQVRLIDGKMTERRG 222

XX 181 SPWQVVLDSKKKALCGAVLIHPSWVLTAAHOMESKLLVRLGEVDLRRMEKELDLDI 240

XX 223 SPWQVVLDSKKKALCGAVLIHPSWVLTAAHOMESKLLVRLGEVDLRRMEKELDLDI 282

XX 241 KEVVFHNSKSTTNDIALHLAOPALTSTQIYVPCIPSGLAEREINOMGETLVTG 300

XX 283 KEVVFHNSKSTTNDIALHLAOPALTSTQIYVPCIPSGLAEREINOMGETLVTG 342

XX 301 GYHSSREKAKENRTFVLANFIKIPVPHNECEVSNMVSNNLCAGITGRODACEGDS 360

XX 343 GYHSSREKAKENRTFVLANFIKIPVPHNECEVSNMVSNNLCAGITGRODACEGDS 402

XX 361 GGPVWVSFFGTWFLVGLVSWEGCGILLNHYGTYTKRSYLDJHGHIDKXAPPKXWAP 419

XX 403 GGPVWVSFFGTWFLVGLVSWEGCGILLNHYGTYTKRSYLDJHGHIDKXAPPKXWAP 461

RESULT 11

AA13622 ID AA13622 standard; protein; 461 AA.

AC AA13622;

DT 25-MAR-2003 (revised)

DT 04-NOV-1991 (first entry)

DE Human protein C.

XX HPC.

XX Homo sapiens.

XX Key Location/Qualifiers

FT Domain 1..152

FT Peptide /note= "light chain, see comment"

FT Peptide /tag= a

FT Peptide /label= signal peptide

FT Peptide /tag= b

FT Domain /label= mature peptide

FT Domain /tag= d

FT Domain /note= "heavy chain"

XX MO9112320-A.

XX 22-AUG-1991.

XX 09-FEB-1990; 90US-00478084.

XX 09-FEB-1990; 90US-00478084.

XX (ZYMO ) ZYMOGENETICS INC.

XX (TEIJ ) TEIJIN LTD.

XX Miyagi F, Sumi Y, Wakabayash K, Foster DC;

XX WPI; 1991-267132/36.

XX N-PSDB; AAQ13357.

XX Claim 1, Fig 1; 49pp; English.

XX The amino acid sequence codes for human protein C (HPC). The activated

XX protein can comprise one of 3 different truncated light chains, Ala(1) to

XX Lys(150), Lys(151) or Arg(152). The activated HPC with a truncated light

XX chain is more stable during storage. It can be administered for

XX prophylactic and/or therapeutic treatments of disease states or injuries

XX to enhance the patient's own anti-coagulative or fibrinolytic

XX capabilities. See also WO9109951 (AAR13074). (Updated on 25-MAR-2003 to

XX correct PA field.)

XX Sequence 461 AA;

XX Query Match 100.0%; Score 2324; DB 2; Length 461;

XX Best Local Similarity 100.0%; Pred. No. 3.3e-143;

XX Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

XX 1 ANSFLEERHSSLEERCEIEICDFEAKKIFONVDDTLAFWSKHVGDQCLVPLEHPCA 60

XX 43 ANSFLEERHSSLEERCEIEICDFEAKKIFONVDDTLAFWSKHVGDQCLVPLEHPCA 102

XX 61 SLCCGHGTCTIDIGISFSDCRSGWGRFCQREVSTFNCSDNGGCTHYCLEEVMRRCSC 120

XX 103 SLCCGHGTCTIDIGISFSDCRSGWGRFCQREVSTFNCSDNGGCTHYCLEEVMRRCSC 162

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Db      343 GHSSREKEAKRNRTFVLFNFIKIPVPHNECSVMSNMVSENNLCAGILGRQDACEGDS 402
QY      361 GGPWVASFHGTWFLVGLVSWGEGCGILHNHYGVYTKYSRYLDMIGHIRDKRAPOKSMAP 419
        403 GGPWVASFHGTWFLVGLVSWGEGCGILHNHYGVYTKYSRYLDMIGHIRDKRAPOKSMAP 461

RESULT 9
AAP70855
ID      AAP70855 standard; protein; 461 AA.
XX
XX
AC      AAP70855;
XX
XX
DT      25-MAR-2003 (revised)
DT      10-MAY-1991 (first entry)
XX
XX
DE      Human Protein C.
XX
XX      human Protein C; anti-coagulant; thrombosis; serine protease.
XX
OS      Homo sapiens.
XX
XX      Key
XX      Location/Qualifiers
XX      Peptide
XX      1..42
XX      /label= prepro leader peptide
XX      Disulfide-bond
XX      59..64
XX      Domain
XX      92..175
XX      /label= gamma-carboxyglutamic acid (Gla) domain
XX      Disulfide-bond
XX      92..111
XX      /label= growth factor domains
XX      Disulfide-bond
XX      101..106
XX      Disulfide-bond
XX      105..120
XX      Disulfide-bond
XX      122..131
XX      Modified-site
XX      139
XX      /label= N-glycosylation site
XX      Disulfide-bond
XX      140..151
XX      Disulfide-bond
XX      147..160
XX      Disulfide-bond
XX      162..175
XX      Disulfide-bond
XX      183..319
XX      /note= "links together the two processed chains"
XX      Cleavage-site
XX      197..198
XX      /note= "apparent processing site for connecting dipeptide"
XX      Cleavage-site
XX      199..200
XX      /note= "apparent processing site for connecting dipeptide"
XX      Cleavage-site
XX      211..212
XX      /note= "in heavy chain; converts to activated protein C"
XX      Disulfide-bond
XX      238..254
XX      Modified-site
XX      290
XX      /label= N-glycosylation site
XX      Modified-site
XX      355
XX      /label= N-glycosylation site
XX      Modified-site
XX      371
XX      /label= N-glycosylation site
XX      Disulfide-bond
XX      373..387
XX      Disulfide-bond
XX      398..426
XX
XX      EP215548-A.
XX
XX
XX      25-MAR-1987.
XX
XX      26-JUN-1986; 86EP-00304970.
XX
XX      27-JUN-1985; 85US-00749600.
XX      15-AUG-1985; 85US-00766109.
XX
XX      (Zymo ) ZYMOGENETICS INC.
XX      (UNIW ) UNIV WASHINGTON.
XX
XX      Murray MJ, Berkner KL, Foster DC, Davie EW;

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XX      WPI; 1987-081505/12.
DR      N-PSDB; AAN70102.
XX
XX      Human protein C or activated protein C - prepd. using expression vector
PT      capable of integration in mammalian host cell DNA.
XX
XX      Claim 4; Fig 4; 52pp; English.
XX
XX      Recombinantly produced protein C can be used to treat thrombotic
CC      disorders such as venous thrombosis as it has anti-coagulant properties.
CC      The protein sequence is thought to yield two peptide chains; the first
CC      contains the Gla domain and growth factor domains and the second (the
CC      activation peptide) contains the catalytic domain. (Updated on 25-MAR-
CC      2003 to correct PA field.)
XX
XX      Sequence 461 AA;
SQ
Query Match      100.0%; Score 2324; DB 1; Length 461;
Best Local Similarity 100.0%; Pred. No. 3,3e-143;
Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY      1 ANSFLEELHSSLSRECEIEHICDPEBAKEIFQNVDDTLAFWSKHYVDGQCIPLFHPCA 60
        43 ANSFLEELHSSLSRECEIEHICDPEBAKEIFQNVDDTLAFWSKHYVDGQCIPLFHPCA 102
QY      61 SLCCGHTCIDIGSFSCDCRSQWEGRFQREVSFLNCSLDNGGCTHYCLEEVGWRRCSC 120
        103 SLCCGHTCIDIGSFSCDCRSQWEGRFQREVSFLNCSLDNGGCTHYCLEEVGWRRCSC 162
QY      121 APGYKLGDDLQCHPAVKFPCGRPWREMEKKRSHLKDDEDEQDQVDPRLIDGKMTRRGD 180
        163 APGYKLGDDLQCHPAVKFPCGRPWREMEKKRSHLKDDEDEQDQVDPRLIDGKMTRRGD 222
QY      181 SPWQVVLDSKKKLLACAVLIHPSWVLTAAQWDESKKLLVGLGSDYDRMEKEELDLDI 240
        223 SPWQVVLDSKKKLLACAVLIHPSWVLTAAQWDESKKLLVGLGSDYDRMEKEELDLDI 282
QY      241 KEVFVHPNYSKSTINDNDIALHLAOPATLSOTIYICLPDPSGLAREINQOGETLVATGM 300
        283 KEVFVHPNYSKSTINDNDIALHLAOPATLSOTIYICLPDPSGLAREINQOGETLVATGM 342
QY      301 GHSSREKEAKRNRTFVLFNFIKIPVPHNECSVMSNMVSENNLCAGILGRQDACEGDS 360
        343 GHSSREKEAKRNRTFVLFNFIKIPVPHNECSVMSNMVSENNLCAGILGRQDACEGDS 402
QY      361 GGPWVASFHGTWFLVGLVSWGEGCGILHNHYGVYTKYSRYLDMIGHIRDKRAPOKSMAP 419
        403 GGPWVASFHGTWFLVGLVSWGEGCGILHNHYGVYTKYSRYLDMIGHIRDKRAPOKSMAP 461

RESULT 10
AAP90401
ID      AAP90401 standard; protein; 461 AA.
XX
XX      AAP90401;
XX
XX      25-MAR-2003 (revised)
XX      01-NOV-1989 (first entry)
XX
XX      Zymogen form of human protein C.
XX
XX      Human protein C; zymogen form; activated C protein; human liver mRNA;
XX      signal peptide; propeptide; antithrombotic.
XX
XX      Homo sapiens.
XX
XX      EP323149-A.
XX
XX      05-JUL-1989.
XX
XX      22-DEC-1988; 88EP-00312201.
XX

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## RESULT 7

AAP81104  
 ID AAP81104 standard; protein; 460 AA.  
 AC AAP81104;  
 XX  
 XX 25-MAR-2003 (revised)  
 DT 16-SEP-1990 (first entry)  
 XX  
 XX Sequence of human protein C.  
 DE  
 XX Human protein C; plasmid pPC 1.  
 KM  
 OS Homo sapiens.  
 XX  
 XX JP63263083-A.  
 PN  
 XX 31-OCT-1988.  
 PD  
 XX 21-APR-1987; 87JP-00096341.  
 PF  
 XX 21-APR-1987; 87JP-00096341.  
 PR  
 XX 21-APR-1987; 87JP-00096341.  
 XX  
 XX (FARH ) HOBCHST JAPAN LTD.  
 PA  
 XX WPI; 1986-350711/49.  
 DR N-PSDB; AAN81408.  
 XX  
 XX Human protein C gene - prepd. from new DNA having specified base  
 PT sequence.  
 PT  
 XX Disclosure; Page 7; 16pp; Japanese.  
 PS  
 XX The human protein C is expressed in large amts. using plasmid pPC 1 in  
 CC E.coli K12/On 225 (FERM P-9297). (Updated on 25-MAR-2003 to correct PD  
 CC field.) (Updated on 25-MAR-2003 to correct PA field.)  
 XX  
 SQ Sequence 460 AA.

Query Match 100.0%; Score 2324; DB 1; Length 460;  
 Best Local Similarity 100.0%; Pred. No. 3.3e-143;  
 Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLELRHSSLEECIEBEICDPEBAKEIFONVDDTLAFMSKHYVDGQCLVPLEHPCA 60  
 DB 42 ANSFLELRHSSLEECIEBEICDPEBAKEIFONVDDTLAFMSKHYVDGQCLVPLEHPCA 101  
 QY 61 SLCCGHTCIDIGISFSCDCSGMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 120  
 DB 102 SLCCGHTCIDIGISFSCDCSGMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 161  
 QY 121 APGYKLGDDLLQCHPAVYFCGRPMKRMKKRSHLKADTEDQEDVDPRLLDGKMTRRGD 180  
 DB 162 APGYKLGDDLLQCHPAVYFCGRPMKRMKKRSHLKADTEDQEDVDPRLLDGKMTRRGD 221  
 QY 181 SPQOVVLLDSKKKLLACGAVLIHPSWLTAAHCDSESKLLVRLGEYDLRRKMKELDLDI 240  
 DB 222 SPQOVVLLDSKKKLLACGAVLIHPSWLTAAHCDSESKLLVRLGEYDLRRKMKELDLDI 281  
 QY 241 KEVFPHPNYSKSTTNDIALIHLAQPATLSQTIYVICLPDPSGLAEFEINQAGETLVGM 300  
 DB 282 KEVFPHPNYSKSTTNDIALIHLAQPATLSQTIYVICLPDPSGLAEFEINQAGETLVGM 341  
 QY 301 GYHSSREKAKKRNRTFVLANFIKIPVPHNECSSEVMNVSNNLCAGLIGRQDACEGDS 360  
 DB 342 GYHSSREKAKKRNRTFVLANFIKIPVPHNECSSEVMNVSNNLCAGLIGRQDACEGDS 401  
 QY 361 GGMVVASFHGTMTFLVGLVSWGEGCLLHNYGYTKSRYYLDMHGHITDKEAQPQKSMAP 419  
 DB 402 GGMVVASFHGTMTFLVGLVSWGEGCLLHNYGYTKSRYYLDMHGHITDKEAQPQKSMAP 460

## RESULT 8

AAP60001  
 ID AAP60001 standard; protein; 461 AA.

AC AAP60001;  
 XX  
 XX 25-MAR-2003 (revised)  
 DT 25-JUL-1991 (first entry)  
 XX  
 XX Sequence of polypeptide with human protein C activity.  
 DE  
 XX Vascular disorder therapy; protein C deficiency.  
 KM  
 OS Homo sapiens.

FH Key Location/Qualifiers  
 FT Region 1..32  
 FT Protein /note= "encoded by AAP60004"  
 FT /note= "461  
 /note= "encoded by AAP60001"

EP191606-A.  
 PN  
 XX 20-AUG-1986.  
 PD  
 XX 06-FEB-1986; 86EP-00300823.  
 PF  
 XX 08-FEB-1985; 85US-00639967.  
 PR  
 XX (ELIL ) LILLY & CO ELI.  
 PA  
 XX Bang NU, Beckmann RJ, Usakunas SR, Lai WHT, Little SP, Long GL,  
 PI Sauterre RF;  
 PI WPI; 1986-220077/34.  
 DR  
 XX Prodn. of polypeptide having human protein C activity - is by recombinant  
 PT DNA procedures for prod. useful against vascular disorders.  
 PT  
 XX Disclosure; Page 10-12; 121pp; English.

PS The claimed sequence AAP60001 has "R1N-RW" attached to its 5' end  
 CC wherein: R= AAP60002 or AAP60003, and R1= AAP60004 or AAP60005; and M and  
 CC N= 0 or 1; provided that when M=0, N=0; and that when R= AAP60002, R1=  
 CC AAP60004; and that when R= AAP60003, R1= AAP60005. (Updated on 25-MAR-  
 CC 2003 to correct PA field.)  
 XX  
 SQ Sequence 461 AA;

Query Match 100.0%; Score 2324; DB 1; Length 461;  
 Best Local Similarity 100.0%; Pred. No. 3.3e-143;  
 Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLELRHSSLEECIEBEICDPEBAKEIFONVDDTLAFMSKHYVDGQCLVPLEHPCA 60  
 DB 43 ANSFLELRHSSLEECIEBEICDPEBAKEIFONVDDTLAFMSKHYVDGQCLVPLEHPCA 102  
 QY 61 SLCCGHTCIDIGISFSCDCSGMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 120  
 DB 103 SLCCGHTCIDIGISFSCDCSGMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 162  
 QY 121 APGYKLGDDLLQCHPAVYFCGRPMKRMKKRSHLKADTEDQEDVDPRLLDGKMTRRGD 180  
 DB 163 APGYKLGDDLLQCHPAVYFCGRPMKRMKKRSHLKADTEDQEDVDPRLLDGKMTRRGD 222  
 QY 181 SPQOVVLLDSKKKLLACGAVLIHPSWLTAAHCDSESKLLVRLGEYDLRRKMKELDLDI 240  
 DB 222 SPQOVVLLDSKKKLLACGAVLIHPSWLTAAHCDSESKLLVRLGEYDLRRKMKELDLDI 282  
 QY 241 KEVFPHPNYSKSTTNDIALIHLAQPATLSQTIYVICLPDPSGLAEFEINQAGETLVGM 300  
 DB 283 KEVFPHPNYSKSTTNDIALIHLAQPATLSQTIYVICLPDPSGLAEFEINQAGETLVGM 342  
 QY 301 GYHSSREKAKKRNRTFVLANFIKIPVPHNECSSEVMNVSNNLCAGLIGRQDACEGDS 360

XX 19-OCT-2001; 2001FR-00013492.  
 XX (INRM ) INSERM INST NAT SANTE & RECH MEDICALE.  
 PA Le Bonbec B, Marque PE, Louvain V, Calmel C, Bianchini E,  
 PI Maach M,  
 PT WPI; 2003-451127/43.  
 XX  
 XX New chimeric protein, cleavable by thrombin, useful e.g. as  
 PT antithrombotic agents, particularly modified protein C containing  
 PT artificial activation sequence.  
 XX  
 XX Disclosure; Fig 1; 51pp; French.  
 XX  
 XX The present sequence represents the mature form of human protein C. This  
 CC protein is an essential factor in the regulation of coagulation. The  
 CC specification describes a chimeric protein, based on protein C, which  
 CC comprises a thrombin-cleavable artificial sequence. This artificial  
 CC sequence is of a formula given in the specification, and comprises a  
 CC peptide from fibrinopeptide A, and a thrombin-cleavage site, other than  
 CC that of the alpha-chain of fibrinogen. The chimeric protein and serine  
 CC protease derivatives obtained by cleaving the chimeric protein with  
 CC thrombin, are useful as antithrombotic, antiinflammatory, antiapoptotic  
 CC and profibrinolytic agents, for treatment or prevention of  
 CC hypercoagulable diseases, e.g. venous and arterial thrombosis;  
 CC myocardial infarction; pulmonary embolism; reocclusion after angioplasty  
 CC and alterations in the genes for protein C and thrombomodulin  
 XX  
 SQ Sequence 419 AA;  
 Query Match 100.0%; Score 2324; DB 6; Length 419;  
 Best Local Similarity 100.0%; Pred. No. 3e-143;  
 Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 ANSFLELRHSSLEECIEEICDFEAKETIFONVDITLAFMSKHVGDQCLVPLEHPCA 60  
 DB 1 ANSFLELRHSSLEECIEEICDFEAKETIFONVDITLAFMSKHVGDQCLVPLEHPCA 60  
 QY 61 SLCCGHTCIDIGISFSCDCRSQMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 120  
 DB 61 SLCCGHTCIDIGISFSCDCRSQMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 120  
 QY 121 AFGYKLGDDLLQCHPAVYFPCGRPMKMEKRSKSHKRTEDQEDQVDPRLIDGKMTRRGD 180  
 DB 121 AFGYKLGDDLLQCHPAVYFPCGRPMKMEKRSKSHKRTEDQEDQVDPRLIDGKMTRRGD 180  
 QY 181 SPQVYLLDSKKKLAAGAVLIHPSWVLTAAHOMESKLLVRLGEVDLRRWEKXWELDDI 240  
 DB 181 SPQVYLLDSKKKLAAGAVLIHPSWVLTAAHOMESKLLVRLGEVDLRRWEKXWELDDI 240  
 QY 241 KEVFEHNYNYSKSTTNDIALHLAOPATLSQTTIVICLPDPSGLAEELNOAGQETLVGW 300  
 DB 241 KEVFEHNYNYSKSTTNDIALHLAOPATLSQTTIVICLPDPSGLAEELNOAGQETLVGW 300  
 QY 301 GYHSREKEAKNRRTFVNFIKIPVPHNECSEVSNMVCAGILGDRQACSGDS 360  
 DB 301 GYHSREKEAKNRRTFVNFIKIPVPHNECSEVSNMVCAGILGDRQACSGDS 360  
 QY 361 GGPWVASFHGTWFLVGLVSWGEGGLAHNYGYTTKVSRYLDWIHGIHDKKAPQKSNAP 419  
 DB 361 GGPWVASFHGTWFLVGLVSWGEGGLAHNYGYTTKVSRYLDWIHGIHDKKAPQKSNAP 419  
 RESULT 6  
 ID ADC40014 standard; protein; 419 AA.  
 XX  
 XX ADC40014;  
 XX  
 DT 18-DEC-2003 (first entry)  
 XX

DE Human activated protein C-related protein #3.  
 XX human; activated protein C; APC; thrombotic disorder;  
 KW intravascular coagulation; thrombotic stroke; deep vein thrombosis;  
 KW pulmonary embolism; peripheral arterial thrombosis;  
 KW acute myocardial infarction; retina thrombosis.  
 XX  
 XX Homo sapiens.  
 XX  
 XX W02003075834-A2.  
 XX  
 XX 18-SEP-2003.  
 XX  
 XX 27-FEB-2003; 2003WO-US005046.  
 XX  
 XX 08-MAR-2002; 2002US-0363364P.  
 XX  
 XX (EIL ) LILLY & CO ELI.  
 XX  
 XX Gopalratnam G, Huang L, Riggin RM, Shetiga TA;  
 DR WPI; 2003-722306/68.  
 XX  
 XX Pharmaceutical composition comprising activated protein C and a chelating  
 PT agent useful for treating thrombotic disorders such as stroke, deep vein  
 PT thrombosis, pulmonary embolism and myocardial infarction.  
 PS  
 XX Disclosure; SEQ ID NO 3; 29pp; English.  
 CC  
 CC The invention comprises a pharmaceutical composition containing activated  
 CC protein C (apc), a chelating agent and optionally a diluent. The  
 CC composition of the invention is useful for treating thrombotic disorders,  
 CC such as: intravascular coagulation, thrombotic stroke, deep vein  
 CC thrombosis, pulmonary embolism, peripheral arterial thrombosis, acute  
 CC myocardial infarction and retina thrombosis. The present amino acid  
 CC sequence represents a human protein that was used in the exemplification  
 CC of the invention.  
 XX  
 SQ Sequence 419 AA;  
 Query Match 100.0%; Score 2324; DB 7; Length 419;  
 Best Local Similarity 100.0%; Pred. No. 3e-143;  
 Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 ANSFLELRHSSLEECIEEICDFEAKETIFONVDITLAFMSKHVGDQCLVPLEHPCA 60  
 DB 1 ANSFLELRHSSLEECIEEICDFEAKETIFONVDITLAFMSKHVGDQCLVPLEHPCA 60  
 QY 61 SLCCGHTCIDIGISFSCDCRSQMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 120  
 DB 61 SLCCGHTCIDIGISFSCDCRSQMEGRFCQREVSFLNCSLDNGGCTHYCLEEVGMRRCSG 120  
 QY 121 AFGYKLGDDLLQCHPAVYFPCGRPMKMEKRSKSHKRTEDQEDQVDPRLIDGKMTRRGD 180  
 DB 121 AFGYKLGDDLLQCHPAVYFPCGRPMKMEKRSKSHKRTEDQEDQVDPRLIDGKMTRRGD 180  
 QY 181 SPQVYLLDSKKKLAAGAVLIHPSWVLTAAHOMESKLLVRLGEVDLRRWEKXWELDDI 240  
 DB 181 SPQVYLLDSKKKLAAGAVLIHPSWVLTAAHOMESKLLVRLGEVDLRRWEKXWELDDI 240  
 QY 241 KEVFEHNYNYSKSTTNDIALHLAOPATLSQTTIVICLPDPSGLAEELNOAGQETLVGW 300  
 DB 241 KEVFEHNYNYSKSTTNDIALHLAOPATLSQTTIVICLPDPSGLAEELNOAGQETLVGW 300  
 QY 301 GYHSREKEAKNRRTFVNFIKIPVPHNECSEVSNMVCAGILGDRQACSGDS 360  
 DB 301 GYHSREKEAKNRRTFVNFIKIPVPHNECSEVSNMVCAGILGDRQACSGDS 360  
 QY 361 GGPWVASFHGTWFLVGLVSWGEGGLAHNYGYTTKVSRYLDWIHGIHDKKAPQKSNAP 419  
 DB 361 GGPWVASFHGTWFLVGLVSWGEGGLAHNYGYTTKVSRYLDWIHGIHDKKAPQKSNAP 419

DE	Human Protein C zymogen protein.
XX	
OS	Homo sapiens.
XX	
FT	Key
FT	Location/Qualifiers
FT	1. .155
FT	/label= Light_chain
FT	156. .157
FT	/label= Lys_Arg_dipeptide
FT	158. .419
FT	/label= Heavy_chain
FT	158. .169
FT	/label= Activation_peptide
PX	WC0200232461-A2.
PN	
PD	25-APR-2002.
XX	
PF	15-OCT-2001; 2001WO-DK000679.
PR	18-OCT-2000; 2000DK-00001560.
PR	18-OCT-2000; 2000US-0242266P.
PR	21-UTN-2001; 2001DK-0000097D.
PR	21-UTN-2001; 2001US-0300154P.
XX	
PA	(MAXY-) MAXYGEN ABS.
XX	
XX	(MAXY-) MAXYGEN HOLDINGS LTD.
PI	
PI	Andersen KV, Pedersen AH, Freaekgaard PO;
DR	WPI; 2002-489875/52.
XX	
DR	N-PSDB; ABR86039.
XX	
PT	Novel conjugate useful for treating or preventing septic shock, stroke
PT	and myocardial infarction, comprises non-polypeptide group covalently
PT	attached to protein C polypeptide comprising an attachment group.
XX	
PS	Claim 2; Page 79-81; 92pp; English.
XX	
CC	The invention relates to a conjugate (I) comprising at least one non-
CC	polypeptide moiety (II) (e.g. an N-glycosyl group) covalently attached to
CC	a protein C polypeptide comprising an amino acid sequence which differs
CC	from that of a parent protein C polypeptide (III) in at least one
CC	introduced and/or at least one removed amino acid residue comprising an
CC	attachment group for the non-polypeptide group (e.g. an N-glycosylation
CC	site). Also included are (1) a variant (IV) of (III) comprising a
CC	substitution in a position (p) where (p) is an amino acid with at least
CC	2% of its side group exposed to the surface, with the proviso that the
CC	substitution is not Thr34Ser/Ala/His/Lys/Arg/Asn/Glu/Gly/Gln or Phe15Ser/Ala/Thr/ Tyr32Ser/Ala/Thr/His/Lys/Arg/Asn/Asp/Glu/Gly/Gln or Phe15Ser/Ala/Thr/ Lys/Lys/Arg/Asn/Asp/Glu/Gly/Gln. (2) a nucleotide sequence (V) encoding (IV); (3) an expression vector (VI) comprising (V); (4) a host cell (VII)
CC	comprising (V) or (VI); (5) increasing (M2) the functional in vivo half-
CC	-life or the serum half-life of a parent protein C polypeptide. The
CC	conjugates, variants and protein C proteins are useful as medicaments,
CC	and in the manufacture of medicaments for the treatment (and
CC	diagnosis/prevention) of stroke, myocardial infarction, after venous
CC	thrombosis, disseminated intravascular coagulation (DIC), sepsis, septic
CC	shock, emboli e.g. pulmonary emboli, transplantation such as bone marrow
CC	transplantation, burns, pregnancy, major surgery/trauma or adult
CC	respiratory distress syndrome (ARDS). The variant protein C has an
CC	increased resistance to activation by e.g. human plasma and alpha-1
CC	antitrypsin. The conjugates have an increased in vivo half-life,
CC	increased serum half-life, increased resistant to inhibitors, reduced
CC	renal clearance, reduced immunogenicity and/or increased bioavailability
CC	The conjugate offers a number of advantages over the currently available

CC	APC product, including longer duration between injections,
CC	administration of less protein, and fewer side effects. Moreover, a
CC	reduced anticoagulant activity is beneficial to reduce the risk of
CC	bleeding while maintaining the antiinflammatory activity of APC
CC	(activated protein C) conjugates. This must be especially important when
CC	the conjugate has an extended plasma life. The gene for protein C is
CC	located on chromosome 2q13-q14. The present sequence represents zymogen
CC	protein C upon which the variants of the invention were based
XX	
XX	Sequence 419 AA;
XX	
XX	Query Match 100.0%; Score 2324; DB 5; Length 419;
XX	Best Local Similarity 100.0%; Pred. No. 3e-143;
XX	Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY	1 ANSFLERHSHLERECTRELCDFEEAKEIFQNDUPTLAFMSGHVNGQCVLPLEHPCA 60
DB	1 ANSPLELRHSHLERECTRELCDFEEAKEIFQNDUPTLAFMSGHVNGQCVLPLEHPCA 60
QY	61 SLCCGGHGTICDIGSGSCDCSGSGWEGHFCQREVSFLNCSLDNGGCTHYCLBEVGMRRCSG 120
DB	61 SLCCGGHGTICDIGSGSCDCSGSGWEGHFCQREVSFLNCSLDNGGCTHYCLBEVGMRRCSG 120
QY	121 AFGYKLGDDLLQCHPAKPCGRPWKMEKKKSHLKPDTEDQDQDPRLLDGMTRRGD 180
DB	121 AFGYKLGDDLLQCHPAKPCGRPWKMEKKKSHLKPDTEDQDQDPRLLDGMTRRGD 180
QY	181 SPQGVLLDSKKKLAGAVALIHPSMWVLTAAHGMDESKCLVLRGEYDLRRMEKEILDLDI 240
DB	181 SPQGVLLDSKKKLAGAVALIHPSMWVLTAAHGMDESKCLVLRGEYDLRRMEKEILDLDI 240
QY	241 KEVFEVHYSKSTTDNDIALHLAQPATISSQITVPICLPDSGLAERELNQAQGETLVATGM 300
DB	241 KEVFEVHYSKSTTDNDIALHLAQPATISSQITVPICLPDSGLAERELNQAQGETLVATGM 300
QY	301 GHSSSEKKAQRNRTVTLNFIKTIPVAPHNCSGMSNNVSNMMLCGILIGRQDACEGDS 360
DB	301 GHSSSEKKAQRNRTVTLNFIKTIPVAPHNCSGMSNNVSNMMLCGILIGRQDACEGDS 360
QY	361 GGEVVASFHGTWFLVGVSWGEGCGLLHNYGYTVKSYSEYLDWIHGIHNDKEAPQKSWAP 419
DB	361 GGEVVASFHGTWFLVGVSWGEGCGLLHNYGYTVKSYSEYLDWIHGIHNDKEAPQKSWAP 419
XX	
XX	RESULT 5
XX	ID ABR5547
XX	ABR5547 standard; protein; 419 AA.
XX	ABR5547;
XX	
DT	11-AUG-2003 (first entry)
DB	
XX	Amino acid sequence of mature human protein C (PC).
XX	
KM	Protein C; coagulation; thrombin; fibrinopeptide A; serine protease;
KM	antithrombotic; antiinflammatory; antiapoptotic; profibrinolytic;
KM	hypercoagulative disease; thrombosis; myocardial infarction;
KM	pulmonary embolism; reocclusion; angioplasty; thrombomodulin.
XX	
OS	Homo sapiens.
XX	
XX	Key
FT	Region
FT	Location/Qualifiers
FT	1..157
FT	/note="light chain"
FT	Active-site
FT	158..169
FT	Region
FT	170..419
FT	/note="heavy chain"
XX	
XX	FR2831170-A1.
XX	
XX	25-APR-2003.
XX	
XX	19-OCT-2001; 2001FR-00013492.
XX	

CC and stroke. Protein C derivatives with amino acid substitutions result in  
 CC increased resistance to inactivation by heparin when compared to wild-  
 CC type activated human protein C. They also have longer half-lives in human  
 CC blood and hence require either less frequent administration and/or  
 CC smaller dosage than wild type human protein C for treating disorders  
 XX  
 SQ Sequence 419 AA:

Query Match 100.0%; Score 2324; DB 4; Length 419;  
 Best Local Similarity 100.0%; Pred. No. 3e-143;  
 Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLEIRHSSLERECIEEICDPEEAKEIFQNVDDTLAFWSKRVGDOCVLPLEHPCA 60  
 DB 1 ANSFLEIRHSSLERECIEEICDPEEAKEIFQNVDDTLAFWSKRVGDOCVLPLEHPCA 60  
 QY 61 SLCCGHGTCIDIGISFSCDCRSQMEGRFCOREVSFLNCSLDNGCTHYCLEEVGMRRSCC 120  
 DB 61 SLCCGHGTCIDIGISFSCDCRSQMEGRFCOREVSFLNCSLDNGCTHYCLEEVGMRRSCC 120  
 QY 121 APGYKLGDDLLQCHPAVYFPCGRPMKMEKRSKSHKRDTEQEDQYDPRLLDGKMTRRGD 180  
 DB 121 APGYKLGDDLLQCHPAVYFPCGRPMKMEKRSKSHKRDTEQEDQYDPRLLDGKMTRRGD 180  
 QY 181 SPMQVVLDSKKKLACGAVLIHPSWVLTAAHCMDSSKLLVRLGEYDLRREKWEKLDLDI 240  
 DB 181 SPMQVVLDSKKKLACGAVLIHPSWVLTAAHCMDSSKLLVRLGEYDLRREKWEKLDLDI 240  
 QY 241 KEVVFHNNYSKSTTNDIALHLAQPATLSQTVIPICLPDSGLARELNQAQETLVYGM 300  
 DB 241 KEVVFHNNYSKSTTNDIALHLAQPATLSQTVIPICLPDSGLARELNQAQETLVYGM 300  
 QY 301 GYHSREKREKAKNRFTVLFNFIKIPVPHNECSEVMSNVSNNLCAGILGDRQDACEGDS 360  
 DB 301 GYHSREKREKAKNRFTVLFNFIKIPVPHNECSEVMSNVSNNLCAGILGDRQDACEGDS 360  
 QY 361 GGPVWASFHGTWFLVGLVSWBGGCLLHNYGYTVKSRYLDMIGHIRDKERAPQKSWAP 419  
 DB 361 GGPVWASFHGTWFLVGLVSWBGGCLLHNYGYTVKSRYLDMIGHIRDKERAPQKSWAP 419

RESULT 3  
 ID AAE08625  
 ID AAE08625 standard; protein; 419 AA.

AC AAE08625;  
 DT 01-NOV-2001 (first entry)  
 XX  
 DE Human mature wild type protein C.

XX Human; protein C derivative; anticoagulation activity; thrombosis;  
 KW serpin inactivation; acute coronary syndrome; myocardial infarction;  
 KW vascular occlusive disorder; hypercoagulable state; angina; sepsis;  
 KW disseminated intravascular coagulation; DIC; burn; transplantation;  
 KW sickle cell disease; viral haemorrhagic fever; protein C deficiency;  
 KW haemolytic uremic syndrome; acute arterial thrombotic occlusion;  
 KW thrombocytopenia; prothrombotic disorder; gene therapy; thalassemia.

XX Homo sapiens.  
 OS  
 PN WO200159084-A1.  
 XX  
 PD 16-AUG-2001.

XX 02-FEB-2001; 2001WO-US001221.  
 XX 11-FEB-2000; 2000US-0181948P.  
 PR 14-MAR-2000; 2000US-0189199P.  
 XX  
 XX (EILY) LITLY & CO ELLI.

XX Gerlitz BE, Grinnell BW, Jones BE;  
 XX PI

XX WPI; 2001-514662/56.  
 DR N-PSDB; AAD15223.  
 XX  
 PT Protein C derivative for treating acute coronary syndromes, vascular  
 PT occlusive disorders, thrombotic disorders and sepsis, comprises  
 PT substitutions at specified amino acid positions.

Claim 1; Page 43-44; 59pp; English.

The invention relates to human protein C derivatives and nucleic acid  
 molecules encoding such derivatives. These derivatives have increased  
 CC anticoagulation activity, resistance to serpin inactivation and increased  
 CC sensitivity to thrombin activation compared to wild type protein C, and  
 CC retains the biological activity of the wild type human protein C. Protein  
 CC C derivatives are useful in the manufacture of a medicament for the  
 CC treatment of acute coronary syndromes e.g. myocardial infarction and  
 CC unstable angina; and disease states predisposing to thrombosis; vascular  
 CC intra-vascular coagulation (DIC), burns, transplantations, thalassemia,  
 CC sickle cell disease, viral haemorrhagic fever and haemolytic uremic  
 CC syndrome; sepsis in combination with bacterial permeability increasing  
 CC protein; thrombotic disorders in combination with an anti-platelet agent;  
 CC protein C deficiency; acute arterial thrombotic occlusion;  
 CC thromboembolism or stenosis in coronary, cerebral or peripheral arteries  
 CC or in vascular grafts in combination with a thrombolytic agent. Nucleic  
 CC acid molecules of the invention are useful for treating humans with  
 CC genetically predisposed prothrombotic disorders by gene therapy. The  
 CC present sequence is human mature wild type protein C

SQ Sequence 419 AA:

Query Match 100.0%; Score 2324; DB 4; Length 419;  
 Best Local Similarity 100.0%; Pred. No. 3e-143;  
 Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ANSFLEIRHSSLERECIEEICDPEEAKEIFQNVDDTLAFWSKRVGDOCVLPLEHPCA 60  
 DB 1 ANSFLEIRHSSLERECIEEICDPEEAKEIFQNVDDTLAFWSKRVGDOCVLPLEHPCA 60  
 QY 61 SLCCGHGTCIDIGISFSCDCRSQMEGRFCOREVSFLNCSLDNGCTHYCLEEVGMRRSCC 120  
 DB 61 SLCCGHGTCIDIGISFSCDCRSQMEGRFCOREVSFLNCSLDNGCTHYCLEEVGMRRSCC 120  
 QY 121 APGYKLGDDLLQCHPAVYFPCGRPMKMEKRSKSHKRDTEQEDQYDPRLLDGKMTRRGD 180  
 DB 121 APGYKLGDDLLQCHPAVYFPCGRPMKMEKRSKSHKRDTEQEDQYDPRLLDGKMTRRGD 180  
 QY 181 SPMQVVLDSKKKLACGAVLIHPSWVLTAAHCMDSSKLLVRLGEYDLRREKWEKLDLDI 240  
 DB 181 SPMQVVLDSKKKLACGAVLIHPSWVLTAAHCMDSSKLLVRLGEYDLRREKWEKLDLDI 240  
 QY 241 KEVVFHNNYSKSTTNDIALHLAQPATLSQTVIPICLPDSGLARELNQAQETLVYGM 300  
 DB 241 KEVVFHNNYSKSTTNDIALHLAQPATLSQTVIPICLPDSGLARELNQAQETLVYGM 300  
 QY 301 GYHSREKREKAKNRFTVLFNFIKIPVPHNECSEVMSNVSNNLCAGILGDRQDACEGDS 360  
 DB 301 GYHSREKREKAKNRFTVLFNFIKIPVPHNECSEVMSNVSNNLCAGILGDRQDACEGDS 360  
 QY 361 GGPVWASFHGTWFLVGLVSWBGGCLLHNYGYTVKSRYLDMIGHIRDKERAPQKSWAP 419  
 DB 361 GGPVWASFHGTWFLVGLVSWBGGCLLHNYGYTVKSRYLDMIGHIRDKERAPQKSWAP 419

RESULT 4  
 ID AAU99002  
 ID AAU99002 standard; protein; 419 AA.

XX AAU99002;  
 AC  
 XX 23-AUG-2002 (first entry)  
 DT  
 XX



FT /note= "cleavage makes a 2-chain inactive precursor (155-  
 FT amino acid light chain attached via a disulfide bond to a  
 FT 262-amino acid heavy chain)"  
 FT Peptide  
 FT 158..169  
 FT /note= "activation peptide; removal activates the 2-chain  
 FT zymogen"  
 FT 169..170  
 FT Cleavage-site /note= "thrombin cleavage site"  
 FT Disulfide-bond 196..212  
 FT Modified-site 248  
 FT /note= "N-glycosylated"  
 FT 313  
 FT Modified-site /note= "N-glycosylated"  
 FT 329  
 FT /note= "N-glycosylated"  
 FT Disulfide-bond 331..345  
 FT Disulfide-bond 356..364  
 XX  
 FN W0200157193-A2.  
 XX  
 PD 09-AUG-2001.  
 XX  
 PF 19-JAN-2001; 2001MO-US000020.  
 XX  
 PR 02-FEB-2000; 2000US-0179801P.  
 PR 14-MAR-2000; 2000US-0189197P.  
 XX  
 PA (ELIL ) LILLY & CO ELI.  
 XX  
 PI Gerlitz BE, Jones BE;  
 XX  
 DR WPI; 2001-496919/54.  
 DR N-PSDB; AAB26361.  
 XX  
 PT Novel human protein C derivative for treating, e.g., myocardial  
 PT infarction, unstable angina, sepsis, thrombotic disorders, acute arterial  
 PT thrombotic occlusion, and thromboembolism.  
 XX  
 PS Claim 1; Page 49-50; 63pp; English.  
 XX  
 CC The present sequence is that of human protein C mature polypeptide. The  
 CC invention relates to human protein C derivatives having at least 2 amino  
 CC acid substitutions, and to recombinant DNA molecules encoding such  
 CC derivatives. These derivatives have increased anticoagulant activity and  
 CC resistance to inactivation by serpins compared with wild-type human  
 CC protein C but retain the biological activity of the wild-type protein.  
 CC The amino acid substitutions are selected from H10Q, S11G, S12K, Q32E,  
 CC N33D, N33F, and amino acids at positions 194, 195, 228, 249, 254, 302, or  
 CC 316 of the mature protein C polypeptide substituted with Ser, Ala, Thr,  
 CC His, Lys, Leu, Arg, Asn, Asp, Glu, Gly or Gln. Preferred protein C  
 CC derivatives are given in AAB82675-78. Also claimed are a vector  
 CC comprising DNA encoding the novel human protein C derivatives,  
 CC transformed host cells and a method of producing the human protein C  
 CC derivatives. The protein C derivatives are useful for treating coronary  
 CC syndromes and disease states predisposing to thrombosis (e.g. myocardial  
 CC infarction and unstable angina), vascular occlusive disorders and  
 CC hypercoagulable states, sepsis (in combination with bactericidal  
 CC permeability increasing protein or with tissue factor pathway inhibitor),  
 CC thrombotic disorders (in combination with an anti-platelet agent or by  
 CC local delivery through an intracoronary catheter), protein C deficiency,  
 CC acute arterial thrombotic occlusion, thromboembolism, or stenosis in  
 CC coronary, cerebral or peripheral arteries or in vascular grafts. Human  
 CC patients with genetically predisposed prothrombotic disorders may be  
 CC treated by gene therapy (all claimed)  
 XX  
 SQ Sequence 419 AA;  
 CC  
 CC Query Match 100.0%; Score 2324; DB 4; Length 419;  
 CC Best Local Similarity 100.0%; Pred. No. 3e-143;  
 CC Matches 419; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 CC  
 CC 1 ANSFLELHSSLEKCEIEICDFEAKKIFQNVDDTLAFWSKHVDQCVLPLEHPCA 60  
 CC |||||||||||||||||||||||||||||||||||||||||||||||||||||  
 CC |||||||||||||||||||||||||||||||||||||||||||||||||||||

DB 1 ANSFLELHSSLEKCEIEICDFEAKKIFQNVDDTLAFWSKHVDQCVLPLEHPCA 60  
 QY 61 SIICGHCITDGIIGSSCDGSGWEGRFQREVSFLNCSLNGCCTHYCLEEYGRRCSC 120  
 DB 61 SIICGHCITDGIIGSSCDGSGWEGRFQREVSFLNCSLNGCCTHYCLEEYGRRCSC 120  
 QY 121 AGGYLGDILLQCHPVPKPGCRPMKMEKRSRLKPTDEOEOQVDPRLIDKMTREGD 180  
 DB 121 AGGYLGDILLQCHPVPKPGCRPMKMEKRSRLKPTDEOEOQVDPRLIDKMTREGD 180  
 QY 181 SPWQVVLDSKKLACGAVLHPSPVLTAAHCHDESKLLVRLGEYLRKWEKELDDI 240  
 DB 181 SPWQVVLDSKKLACGAVLHPSPVLTAAHCHDESKLLVRLGEYLRKWEKELDDI 240  
 QY 241 KEVFHPVYSKSTTDDIDLHLAQPATLSQTVPICLPDSGLARELNOAGETLVYTW 300  
 DB 241 KEVFHPVYSKSTTDDIDLHLAQPATLSQTVPICLPDSGLARELNOAGETLVYTW 300  
 QY 301 GYHSREKAKRRTFVNLFIKIPVPHNCSFVMSNMVSNMCACTIGDQDACEGDS 360  
 DB 301 GYHSREKAKRRTFVNLFIKIPVPHNCSFVMSNMVSNMCACTIGDQDACEGDS 360  
 QY 361 GGPVVASFHGTWFLVGLVSWEGCGLLHNVGYTTKVSRYLDMIGHTRDEAPQKSNAP 419  
 DB 361 GGPVVASFHGTWFLVGLVSWEGCGLLHNVGYTTKVSRYLDMIGHTRDEAPQKSNAP 419

RESULT 2  
 AAB36894  
 ID AAB36894 standard; protein; 419 AA.  
 XX  
 AC AAB36894;  
 XX  
 DT 26-FEB-2001 (first entry)  
 XX  
 DE Human protein C derivative 1.  
 XX  
 KW Protein C; human; vascular occlusive; burn; transplantation;  
 KW deep vein thrombosis; sickle cell; thalassemia; thrombotic disorders;  
 KW myocardial infarction; angina; stroke.  
 XX  
 OS Homo sapiens.  
 XX  
 PN W0200066754-A1.  
 XX  
 PD 09-NOV-2000.  
 XX  
 PF 13-APR-2000; 2000MO-US008722.  
 PR 30-APR-1999; 99US-0131801P.  
 PA (ELIL ) LILLY & CO ELI.  
 PI Gerlitz BE, Jones BE;  
 XX  
 DR WPI; 2001-007227/01.  
 DR N-PSDB; AAC83311.  
 XX  
 PT Protein C derivatives, useful for treating vascular occlusive disorder,  
 PT hypercoagulable state, thrombotic disorder and disease states  
 PT predisposing thrombosis, comprises specific amino acid substitutions.  
 PS Claim 1; Page 42-44; 57pp; English.  
 XX  
 CC The present invention relates to a human protein C derivative. The  
 CC protein is useful for treating vascular occlusive disorders,  
 CC hypercoagulable states such as sepsis, disseminated intravascular  
 CC coagulation, purpura fulminans, major trauma, major surgery, burns, adult  
 CC respiratory distress syndrome, transplantation, deep vein thrombosis,  
 CC heparin-induced thrombocytopenia, sickle cell disease, thalassemia, viral  
 CC hemorrhagic fever, thrombotic thrombocytopenic purpura, and hemolytic  
 CC uremic syndrome, and also useful for treating thrombotic disorders and  
 CC acute coronary syndromes such as myocardial infarction, unstable angina,

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# OM protein - protein search, using sw model

Run on: June 2, 2004, 16:47:42 ; Search time 60 Seconds  
(without alignments)  
1973.123 Million cell updates/sec

Title: US-09-997-623-4

Perfect score: 2324  
Sequence: 1 AASFLPELRHSLRRECIIE.....LDWIGHIRDXKAPQKSWAP 419

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues

Total number of hits satisfying chosen parameters: 1586107

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%

Listing first 45 summaries

Database : A\_Geneseq\_29Jan04:\*  
1: geneeqp19808:\*  
2: geneeqp19808:\*  
3: geneeqp20008:\*  
4: geneeqp2001s:\*  
5: geneeqp2002s:\*  
6: geneeqp2003as:\*  
7: geneeqp2003bs:\*  
8: geneeqp2004s:\*  
  
Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	2324	100.0	419	4 AAB82673	Aab82673 Wild-type
2	2324	100.0	419	4 AAB36894	Aab36894 Human pro
3	2324	100.0	419	4 AAB08625	Aab08625 Human mat
4	2324	100.0	419	5 AAU99002	AAU99002 Human pro
5	2324	100.0	419	6 ABR55547	ABr55547 Amino act
6	2324	100.0	419	7 ADC40014	ADc40014 Human act
7	2324	100.0	460	1 AAP81104	Aap81104 Sequence
8	2324	100.0	461	1 AAP60001	Aap60001 Sequence
9	2324	100.0	461	1 AAP70855	Aap70855 Human pro
10	2324	100.0	461	1 AAP90401	Aap90401 Zymogen f
11	2324	100.0	461	2 AAR13622	Aar13622 Human pro
12	2324	100.0	461	2 AAR13081	Aar13081 Human pro
13	2324	100.0	461	2 AAR13074	Aar13074 Protein C
14	2324	100.0	461	2 AAR34295	Aar34295 Protein C
15	2324	100.0	461	2 AAU02600	AAu02600 Human pro
16	2324	100.0	461	2 AAU9561	AAu9561 Human lec
17	2324	100.0	461	4 AAB82674	Aab82674 Wild-type
18	2324	100.0	461	4 AAB36895	Aab36895 Human pro
19	2324	100.0	461	4 AAB08626	Aab08626 Human wll
20	2324	100.0	461	5 AAU99001	AAu99001 Human pro
21	2321	99.9	419	5 AAU99035	AAu99035 Human pro
22	2321	99.9	419	5 AAU99031	AAu99031 Human pro
23	2321	99.9	461	1 AAP81205	Aap81205 Human pro
24	2321	99.9	461	1 AAP90070	Aap90070 Human pro
25	2320	99.8	419	5 AAU99074	AAu99074 Human pro

26	2319	99.8	419	5 AAU99033	AAu99033 Human pro
27	2319	99.8	419	5 AAU99015	AAu99015 Human pro
28	2319	99.8	461	2 AAR13539	Aar13539 Human pro
29	2318	99.7	419	4 AAB36896	Aab36896 Human pro
30	2318	99.7	419	5 AAU99073	AAu99073 Human pro
31	2318	99.7	419	5 AAU99096	AAu99096 Human pro
32	2318	99.7	419	5 AAU99032	AAu99032 Human pro
33	2318	99.7	461	2 AAR13997	Aar13997 Human pro
34	2318	99.7	461	2 AAR13582	Aar13582 Human pro
35	2318	99.7	461	2 AAR13585	Aar13585 Human pro
36	2318	99.7	461	2 AAR13584	Aar13584 Human pro
37	2317	99.7	419	2 AAR35760	Aar35760 Protein C
38	2317	99.7	419	5 AAU99047	AAu99047 Human pro
39	2317	99.7	419	5 AAU99069	AAu99069 Human pro
40	2317	99.7	419	5 AAU99036	AAu99036 Human pro
41	2317	99.7	419	5 AAU99075	AAu99075 Human pro
42	2317	99.7	419	5 AAU99043	AAu99043 Human pro
43	2317	99.7	460	2 AAU25086	AAu25086 Human pro
44	2316	99.7	419	5 AAU99013	AAu99013 Human pro
45	2316	99.7	419	5 AAU99019	AAu99019 Human pro

## ALIGNMENTS

RESULT 1		
ID	AAB82673	standard; protein; 419 AA.
XX	XX	
AC	AAB82673;	
XX	XX	
DT	15-OCT-2001	(first entry)
XX	XX	
DE	Wild-type human protein C.	
XX	XX	
KW	Protein C; human; coronary syndrome; thrombosis; angina;	
KW	myocardial infarction; vascular occlusive disorder; hypercoagulation;	
KW	sepsis; protein C deficiency; occlusion; thromboembolism; stenosis;	
KW	antibacterial; immunosuppressive; thrombolytic; cardiac; antiangiinal	
KW	anticoagulant; therapy.	
OS	Homo sapiens.	
XX	XX	
EH	Key	Location/Qualifiers
FT	Domain	1..45
FT		/note= "Gla domain"
FT	Modified-site	6
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FT	Modified-site	7
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FT	Modified-site	12
FT		/note= "O-phosphorylated"
FT	Modified-site	14
FT		/note= "gamma-carboxylated"
FT	Modified-site	16
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FT	Modified-site	26
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FT	Modified-site	29
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FT	Disulfide-bond	98..109
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FT	Disulfide-bond	120..133
FT		/note= "Disulfide-bond"
FT	Disulfide-bond	141..277
FT		/note= "Disulfide-bond"
FT	Cleavage-site	156..157

US 102764430IP1



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1	CTFR	7

Total number of pages: 7

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